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AN EXPERIMENTAL HISTORY OF THE MATERIA MEDICA,

OR OF THE

NATURAL AND ARTIFICIAL SUBSTANCES

MADE USE OF IN

MEDICINE:

CONTAINING A COMPENDIOUS VIEW OF THEIR

NATURAL HISTORY,

An ACCOUNT *of their* PHARMACEUTIC PROPERTIES,

And an Eſtimate of their

MEDICINAL POWERS,

So far as they can be aſcertained by EXPERIENCE, or by RATIONAL
INDUCTION from their SENSIBLE QUALITIES.

BY WILLIAM LEWIS, M. B. F. R. S.

IN TWO VOLUMES.

VOL. I.

THE FOURTH EDITION,
With numerous ADDITIONS and CORRECTIONS
By JOHN AIKIN, M. D.

Rationalem quidem puto Medicinam eſſe debere:
inſtrui vero ab evidentibus. CELSUS.

LONDON:
Printed for J. Johnſon, *in St. Paul's Church-Yard*; R. Baldwin, *in Paterneſter-Row*; J. Sewell, *in Cornhill*; *and* S. Hayes, *in Oxford-Street.*

MDCCXCI.

ADVERTISEMENT

TO THE THIRD EDITION.

A CONSIDERABLE time having elapſed ſince the laſt publication of Dr. Lewis's very valuable work, it was thought neceſſary, now that a new edition was demanded, to procure ſuch additions and corrections, as later improvements in natural hiſtory and medicine had produced, and which the author himſelf, had he now been living, would undoubtedly have made. For this purpoſe it was put into the hands of the preſent editor, who has in the following manner endeavoured to fulfil the intention of the publiſhers.

To every vegetable article he has ſubjoined the Linnæan name.

He has corrected all the references to the Edinburgh Pharmacopœia, both in the catalogue of ſimples, and the officinal preparations, by the laſt edition of that work.

He has added ſeveral entirely new articles; among which are all the new medicines received into the preſent Edinburgh catalogue, and ſuch others as have been recommended upon apparently ſufficient grounds in various publications, domeſtic and foreign.*

From the ſame ſources, and alſo from ſome marginal notes in Dr. Lewis's own copy of his work, he has derived many additional facts and obſervations relative to former articles. All the additional matter is diſtinguiſhed by an aſteriſk prefixed.

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* Theſe are the new Articles.

Aer Fixus.
Cardamine.
Columbo.
Filix Mas.
Flammula Jovis.
Geoffræa Jamaicenſis.
Lichen Iſlandicus.
Lobelia Syphilitica.
Oenanthe Crocata.
Peruvianus Cortex Ruber.
Cinchona Carribæa.
Pulſatilla Nigricans.
Quaſſia.
Radix Lopeziana.
Rhododendron Chryſanthemum.
Spigelia.
Stramonium.
Viola Tricolor.
Winteranus Cortex.
Aconitum Napellus.
Curſuta.
Hippocaſtanum.

At the ſame time that the editor has ſo freely *added* to this work, he has not thought it allowable to *omit* any thing; though ſome of the articles are now expunged from the catalogues of materia medica, and the ſtate of medical theory has undergone conſiderable changes ſince the author wrote. It is ſtill, in every reſpect, Dr. Lewis's entire work.

WARRINGTON, JOHN AIKIN.
October 1, 1783.

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TO THE FOURTH EDITION.

Since the preceding edition was publiſhed, the London college of phyſicians have given a new edition of their Pharmacopœia, in ſeveral reſpects materially altered from that of 1746, eſpecially in the chemical preparations and nomenclature. This has made conſiderable alterations neceſſary in the preſent republication of *Lewis's Materia Medica*, as far as it takes notice of the formulæ of the London Diſpenſatory. A few additions have likewiſe been made to the medical hiſtory of certain articles; and three new ones have been inſerted from the London catalogue, which were not contained in the former editions of this work. Theſe are

HELLEBORASTER,
JUGLANS, and
SIUM.

Great-Yarmouth, Norfolk, J. A.
May 1, 1789.

PRE-

PREFACE.

THE medicinal materials, in the infancy of phyſic neceſſarily few, were by degrees exuberantly multiplied; and new ones are ſtill, from time to time, diſcovered and introduced. Their eſtimation and uſe have been variable; ſubſtances at one time in high eſteem being often at another diſregarded, and thoſe which in one age had fallen into neglect being often in another revived; a fluctuation apparently owing, in many articles, to the fancy or caprice which influences other human things, and in many to ignorance or error. The deſign of the preſent work is, to examine the ſeveral ſubſtances which are or have been in repute; with a view to aſcertain, as far as poſſible, their real powers, and to eſtabliſh this important part of medicine on a juſt foundation. It will, perhaps, appear from this examination, that there are ſome materials of little ſignificance among thoſe which are retained in practice, and many of more utility among thoſe which are overlooked.

The materia medica is commonly underſtood to comprehend, not only the materials afforded by nature, but many of thoſe alſo which are prepared, produced, or compounded by art; as minium, pot-aſh and ſoap. In pharmacopœias, intended as directories, for the preparation of ſuch medicines only as are made in the ſhops, all thoſe artificial medicinal ſubſtances are referred to the materia medica, which are either brought from abroad, or commonly prepared by particular perſons, as articles of commerce. A ſcientific diſtinction may, however, be fixed, independently of commercial conſiderations. Productions eſſentially different, in their medical and other properties, from the ſubject from which they were produced, and which had nothing analogous to them præexiſting in the ſubject; as the fixt alkaline ſalts of vegetables, and the volatile ſalts of animals; —compounds reſulting from the coalition of oppoſite ingredients; of ingredients which in mixture loſe their ſpecific powers, and form together a ſubſtance of new qualities; as neutral ſalts and ſoap;—the conſtituent parts of natural compounds of this kind, ſeparated and purified by art; as magneſia and the mineral acid ſpirits; —may be conſidered as diſtinct medicinal materials, or as articles of the materia medica, whereſoever they are prepared.

It were to be wiſhed, that the ſeveral ſubjects could be methodically arranged, from ſome qualities ſubſervient to medicinal intentions. This has been attempted by different writers, on different plans, but in my opinion with little ſucceſs: nor indeed does it ſeem to be practicable; the qualities of medicines being too intricate, and compounded, and multifariouſly diverſified, to ſerve for the baſis of any uſeful diſtribution of them. The diviſion into minerals, animals, and vegetables, and the ſubdiviſions into roots, barks, leaves, flowers, &c,

are equally exceptionable; ſome ſubſtances not being clearly reducible to either of the three kingdoms, and different parts of one vegetable being commonly made uſe of. I know of no practicable method that promiſes any advantage above the alphabetic one; and what conveniency there is in this regards rather the author than the reader.

Each article may be conſidered in three points of view; as an object of natural, medicinal, and pharmaceutic hiſtory.

The office of natural hiſtory, ſo far as it relates to the materia medica, conſiſts, in diſtinguiſhing the ſeveral ſubſtances from one another by criteria drawn from their external form and ſtructure, and in aſcertaining their origin and production.

The criteria of natural hiſtory are peculiarly adapted to vegetables and animals in their entire and perfect ſtate; the form, ſtructure, and diſpoſition of the ſeveral parts, collectively conſidered, affording here generally ſufficient means, and indeed the only means, of diſtinguiſhing each particular ſpecies from all others. In this branch of knowledge, of late years ſo diligently cultivated and ſo remarkably improved as a general ſcience, little new matter can be expected in a work of the preſent kind. If, of the accounts given in detail by thoſe who have written profeſſedly on theſe ſubjects, the more intereſting and uſeful particulars relative to the medicinal articles, are perſpicuouſly and conciſely expreſſed; if the more obvious and invariable diſcriminative appearances are juſtly ſelected from the writings of others or aſſigned from my own obſervation, ſo as to render the deſcriptions ſtrictly definitive or characteriſtic, without regard to the ſyſtems of naturaliſts; I have in this point accompliſhed my intentions.

Of the diſtinct parts and productions of vegetables and animals, there are many, which cannot be ſufficiently diſcriminated by any external marks, and which require the aſſiſtance of characters drawn from pharmacy or pharmaceutic chemiſtry, that is, from their intrinſic properties. The criteria of natural hiſtory, ſtrictly ſo called, are ſtill more inſufficient, and thoſe of chemiſtry of conſequence more neceſſary, in regard to the products of the mineral kingdom; where, oftentimes, one and the ſame matter aſſumes different forms, and different kinds of matter the ſame form. In aſſigning the criteria drawn from this ſource, I have endeavoured to determine by experiment thoſe properties, which, at the ſame time that they are obvious and eaſily examined, may be fully characteriſtic of the ſubject in all its forms.

The medicinal hiſtory, or the knowledge of the powers and effects of medicines in the human body, though apparently a moſt eſſential branch of the healing art, has been far more incuriouſly cultivated, and ſtill, perhaps, continues leſs cleared from the errors of former ages, than any other ſcience. Even in theſe later times; after the arbitrary qualities of cold, hot, dry, and moiſt, and the ridiculous ſimilitudes and conceits which ſome enthuſiaſts of the laſt century relied on as a teſt of medicinal activity, had been exploded: the advancement of true medicinal hiſtory has met with many obſtructions; partly from the officiouſneſs of compilers in collecting and preſerving the fictitious virtues; partly from a fondneſs, in original writers, of aggrandizing their favourite medicines; partly from a fallacy, in aſcribing to a particular ingredient in a compoſition the effects which more powerful ones had produced, a fallacy which the exuberance of mixture made ſometimes unavoidable; partly from the difficulty of diſtinguiſhing, in many caſes, the real effects of medicines from the operations of nature unaſſiſted; partly from a practice, too common among writers on the materia medica, of barely enumerating the diſeaſes, or even the parts of the body in whoſe general diſeaſes, a medicine had, or was ſuppoſed to have, done good, as if diſeaſes of the ſame parts, or of the ſame name, were always of the ſame nature, or were always to be treated by the ſame remedies. Medicinal hiſtory has perhaps ſuffered alſo from the miſapplication of other ſciences.

After botany had been regularly cultivated, and methodized into ſyſtems; it was obſerved that ſeveral of the plants, which had been ranged together from their agreement or affinity in botanic characters, agreed or were allied alſo in medicinal virtue. As nature appeared to have in ſome inſtances eſtabliſhed a connection of this kind, it was fondly preſumed that ſhe had done ſo in all; that, the virtues of ſome particular plants being known, thoſe of all the others, ranked in the ſame botanic claſs, might alſo be inferred; and accordingly rules have been drawn up, for judging of the virtues of plants upon this principle, by botaniſts of the greateſt name. But ſo far is a ſimilarity of virtue from obtaining through the ſeveral genera which conſtitute one claſs of vegetables, that frequently it does not obtain through the ſeveral ſpecies of one genus: there are ſolanums, lettuces, herb-mercuries, cucumbers, muſhrooms, &c. eſculent and deleterious; and even the ſame individual often varies, from culture or other circumſtances,

ſtances, as much as two plants which have no botanic affinity.

The chemiſts, in like manner, extending the diſcoveries of their uſeful art beyond the proper limits, endeavoured to inveſtigate the virtues of plants from the ſubſtances into which they are reſoluble by fire; and in this view, the French academicians analyſed almoſt all thoſe made uſe of in medicine. From their experiments it appears, that the ſubſtances thus obtained have no reſemblance in quality to the original vegetable, and can afford no foundation for judging of its virtues; that plants the moſt remote in virtue, purgative and aſtringent, poiſonous and eſculent, are changed by force of fire into ſimilar principles. It is matter of concern, that theſe analyſes ſhould have been preſerved in the poſthumous works of a writer ſo judicious as Mr. Geoffroy, while the editor was ſenſible that the author himſelf, in his later years, diſapproved of them.

There are, nevertheleſs, in moſt vegetables, certain ſenſible qualities, either obvious, or eaſily diſcoverable; which afford, under due reſtrictions, an excellent teſt of their virtues; and in which indeed, oftentimes, their virtues wholly conſiſt. Aromatics, acrids, fetids, aſtringents, bitters, ſweets, acids, unctuous and mucilaginous ſubſtances, which comprehend the greater number of the articles of the vegetable kingdom, operate generally by ſuch qualities as are the immediate objects of ſmell and taſte; and from the degree of force with which they affect thoſe ſenſes, their degree of medicinal efficacy may be generally inferred. The ſmells and taſtes of the ſeveral materials, on which ſome have already laid conſiderable ſtreſs, but which for the moſt part have been either wholly neglected, or regarded only as they affect the medicine in point of elegance, I have examined with no little care: and though it is not to be ſuppoſed, that the particular degree of each can be preciſely determined; or its particular ſpecies, eſpecially in regard to ſmell, fully expreſſed in words, any otherwiſe than by compariſon with ſubſtances more known; or that any exact limits can be always fixed, as between fetid and aromatic, grateful and ungrateful; I nevertheleſs flatter myſelf, that the obſervations of this kind will furniſh, in many inſtances, ſufficient data to the phyſician for judging what may be expected from materials he has not experienced. In this part, as in the deſcriptive hiſtory, great aſſiſtance has been drawn from pharmaceutic chemiſtry: for, in many vegetables, the active matter is ſo far divided and diluted by the herbaceous inert ſubſtance; and in others, different kinds of active matter are ſo blended together; that they cannot be diſcovered, or diſtinguiſhed, till they are extracted, or ſeparated from one another, by the operations of chemiſtry.

Some other experiments are, in particular caſes, very uſeful auxiliaries in this inquiry. Thus, a ſolution of vitriol of iron, made in water, is by many vegetables, turned to a black colour; by others, a ſolution of ſulphur, made in alkaline liquors, is rendered milky or turbid, and of a ſtrong fetid ſmell. It is not known, that any vegetable ſubſtance produces the firſt of theſe effects, but thoſe which have an aſtringent power; or that any produces the ſecond, but thoſe partaking of an acid, which unites with and neutralizes the alkaline matter in the liquor, and diſengages the ſulphur which was thereby kept diſſolved. By theſe criteria, lower degrees of aſtringency and acidity are often diſcovered, than the taſte gives any notice of.

The effects of medicines on the fluid and ſolid parts of dead animals; as their producing or reſolving coagulations, relaxing or contracting the fibres, promoting or retarding putrefaction, or varying the degree and the ſpecies as well as the facility of the reſolution; afford likewiſe, in ſome caſes, conſiderable light into their medicinal operation. Of theſe caſes, however, the number appears to be much ſmaller than ſeems to have been imagined by the generality of thoſe who have proſecuted theſe inquiries; who have not, perhaps, ſufficiently conſidered, how different is the operation of medicines on animal ſubſtances in a vital and in an inanimate ſtate; and how much the fluids of an animal are influenced by the action of medicines on the ſolid parts: it is probable, that the operation of moſt medicines is immediately or principally upon the ſolids, and that the fluids are in moſt caſes only conſequentially affected. The fluids moſt likely to anſwer any uſeful purpoſe, in theſe ſorts of trials, are thoſe which are ſecreted into the alimentary canal: experiments on blood ſeem to be of no medical utility: green vitriol, mixed with the blood drawn from a vein, inſtead of rendering it more florid, the common medical effect of this chalybeate preparation, changes it grey: mercurials examined in the ſame manner, diſcover nothing of that remarkable colliquation, which they produce in the blood of living animals.

There are ſubſtances, in which all the foregoing means of inveſtigation fail; and which operate by ſome latent power, of which they give little or no intimation to the ſenſes. Of this kind are moſt of the purgative, emetic, and narcotic plants; thoſe, which from their deleterious effects when taken in certain quantities, are called poiſonous; and moſt of the metallic bodies and their preparations. Experiments on brutes are here of uſe, but of limited uſe: for if prudence requires us to refrain from ſubſtances which are noxious to brutes, it does not always authorize us to venture on ſuch as may to them be innocent: experience ſhews, that the crocus of antimony, of which a grain or two operate on the human body as a virulent cathartic or emetic, may be given to horſes in the quantity of an ounce, without producing any very remarkable effect: that a moderate doſe of jalap throws a dog into convulſions, who could well bear a much greater quantity of opium than could be given with ſafety to a man. The virtues of theſe kinds of ſubſtances can be known only from their effects in the human body itſelf: and as, of all medicines, they have the moſt obvious and apparent effects; they are, happily, of all medicines, thoſe which admit of the leaſt deception, and in which, of conſequence, we can moſt avail ourſelves of the obſervations of former writers. Indeed many of them being now received in general practice, their powers have been determined by general experience.

With ſuch aſſiſtances as I could draw from theſe ſources or from my own experience, I have endeavoured to point out chiefly the primary effects of the ſeveral ſubjects, or the immediate ſenſible operation which conſtitutes their true medical character. I judged it uſeleſs to enter into an enumeration of diſeaſes in which a medicine is or is not proper, when the ſalutary or pernicious effects, which it produces in thoſe diſeaſes, are no other than obvious conſequences of its general power: it nevertheleſs appeared frequently neceſſary to ſpecify ſome particular caſes, as being either illuſtrative of the general power, or ſubſervient to its diſcovery, or where it could not be preciſely aſcertained.

The pharmaceutic hiſtory of ſimples, cloſely allied to the medicinal, regards, chiefly, the variations of their qualities in different ſtates and forms naturally or artificially induced; the ſeparability or non-ſeparability of their active principles by different menſtrua or different operations; and their miſcibility or non-miſcibility one with another. In theſe properties, remarkable diverſities and contrarieties are obſerved among the different medicinal ſimples, even among thoſe in which no material diſagreement has been generally ſuſpected. Thus, the virtue of ſome vegetables accompanies the fluid which they yield on being preſſed, while that of others remains behind locked up and concentrated in the ſubject, and that of others is deſtroyed in the operation: ſome plants, in being dried, loſe all their virtue, ſome have their virtue improved, and ſome have it changed to another kind: ſome, by infuſion, give out their virtue both to water and to ſpirit of wine, ſome to water only, ſome to ſpirit only, and ſome neither to one nor the other. Nor can theſe diverſities be reduced to any general rules, or any otherwiſe determined than by a ſeparate examination of each particular article.

This province belongs peculiarly to chemiſtry; but notwithſtanding its obvious importance to the practice of medicine, even the medical chemiſts have been very remiſs in the cultivation of it. I know only of two perſons, whoſe labours have been conſiderable, and whoſe ſucceſs may be applauded. Neumann, one of the firſt who, rejecting the uſeleſs analyſes of vegetables made by vehemence of fire, endeavoured to ſeparate their component parts, unaltered, by means of menſtrua; examined by this method a conſiderable number of the officinal drugs, not indeed directly in a medicinal view, but in the way of a general chemical inquiry into the products of nature. Cartheuſer, confining himſelf more cloſely to medicinal conſiderations, followed nearly Neumann's plan ſo far as it included theſe, and made ſundry valuable additions.

In the preſent work, the inquiry is extended to a far greater number of ſimples, and conducted likewiſe on ſomewhat different principles. The quantity of matter, which water or ſpirit extract from a plant, or which either menſtruum extracts after the action of the other, is, medicinally, of little importance to be known; unleſs it be known alſo, what are the preciſe qualities of the ſeveral preparations, whether the virtue of the plant reſides in the part extracted by one or the other menſtruum, or whether in this ſeparation of the parts of the ſubject, any active matter is diſcovered which was not perceptible before. And on the other hand, though the qualities of the infuſions, extracts, &c. be very carefully and minutely examined; yet if they are deſcribed independently of one another, and if no account is taken of the remaining ſubſtance of the plant, or of the vapour that exhales in the inſpiſſation of the ſpirituous tincture; it will be impoſſible, in many caſes, to judge between the diſſolving powers of water and ſpirit, or whether either is a complete menſtruum for the active parts, or whether the ſpirituous extract retains the full virtue of the ſubject, or whether a part of the virtue exhales or diſtils with the ſpirit. Without embarraſſing the reader with a minute hiſtory of experiments, I have given only their reſult, or the general pharmaceutic habitude of the ſubject deduced from them: it is in trying to make theſe general deductions from the experiments hitherto publiſhed, that their inſufficiency, in regard to the greater number of the articles, is moſt conſpicuous. I have nevertheleſs been obliged, in ſome caſes, by the multiplicity of the labour, and the difficulty of procuring ſpecimens of ſome few articles, to be ſatisfied with ſuch information as thoſe experiments afford.

To prevent the neceſſity of frequent repetitions under the particular ſubjects, ſome obſervations of a general nature are here premiſed.

1. *Of the collection and curation of Simples.*

Vegetables ſhould be gathered chiefly from thoſe ſoils, in which they naturally delight, or in which they are found moſt commonly to riſe ſpontaneous; for, though many of them may be raiſed, and made to grow with vigour, in very different ones, their virtue generally ſuffers by the change. A variation of ſeaſons occaſions alſo differences conſiderable enough to require, oftentimes, an allowance to be made in the quantity; plants in general proving weaker, though more luxuriant, in rainy than in dry ones.—Herbs and flowers are to be gathered in a clear dry day, after the morning dew is gone off from them. Leaves, for the moſt part, are in their greateſt perfection, when come to their full growth, juſt before the flowers appear: flowers, when moderately expanded: ſeeds, when they begin to grow dry, before they fall ſpontaneouſly: woods and barks, as is ſuppoſed, in the winter: annual roots, before the ſtalks begin to riſe: biennial roots, in the autumn of the firſt year: perennial roots, in the autumn, after the leaves have fallen, or early in the ſpring before they begin to vegetate. To moſt of theſe rules there are ſome exceptions, which are ſpecified under the particular ſubjects.

Of the vegetables which loſe their virtue in being dried, the greater number, perhaps all, may be preſerved for a conſiderable length of time, by impeding the exhalation of their native moiſture; for ſo long as they retain this, they ſeem to retain alſo their medical activity. Thus roots have their virtue preſerved by being buried in ſand, which ſhould be dry, that they may not vegetate: leaves and flowers, of a more corruptible nature than roots, by being beaten with about thrice their weight of fine ſugar to prevent their corruption, and kept in a cloſe veſſel.

Plants which bear drying, are commonly hung in a warm airy place, defended from the ſun. The colours of herbs and flowers are for the moſt part changed or deſtroyed, in drying, by the ſun's beams; but that their medicinal virtue ſuffers a like diminution, does not appear. Thus much is certain, that a heat of culinary fire, equal to that of the ſun in ſummer, does them no injury in either reſpect: and that both flowers and leaves, when thus haſtily dried by fire, preſerve the liveline ſs of their colour, and their ſmell and taſte, more perfectly than by ſlow exſiccation. The leaves of moderately juicy plants are reduced, by drying, to about one fourth of their original weight.

Some roots, and ſome other parts of vegetables, how thoroughly ſoever they have been dried, are liable, in keeping, to grow mouldy and carious. This inconvenience might probably be obviated by dipping them, when dried, in boiling ſpirit of wine, or expoſing them to its vapour in a cloſe veſſel. It is ſaid, that ſome of the oriental ſpices are made leſs periſhable, by being dipt in a mixture of lime and water.

The pulps of fruits are ſeparated from the ſeeds and membranous parts, by forcing them through a ſtrong hair ſieve. If the fruit is unripe and hard, or if it is dry, it ſhould be previouſly ſoftened by boiling in a little water; and the pulp, after paſſing through the ſieve, is to be inſpiſſated over a gentle fire, with care to prevent its burning.

The concrete gummy-reſinous juices brought from abroad, which have uſually a conſiderable mixture of bits of ſtalks, leaves, ſeeds, &c. are purified by adding ſo much boiling water, as will ſo far ſoften or diſſolve them, that they may be preſſed, whilſt hot, through a ſtrainer; and then inſpiſſating the ſtrained liquid, in a gentle heat, to the original conſiſtence of the gummy-reſin: if the quantity of water is conſiderable, the reſinous part commonly ſeparates and ſubſides, and in this caſe is to be kept by itſelf till towards the end of the inſpiſſation of the gummy, at which time they may be eaſily united again together into an uniform maſs. Some of the gummy-reſins, expoſed to the heat of boiling water, melt thin enough, without any addition, to be preſſed through a canvas ſtrainer. In either proceſs, the operator muſt be careful to prevent, as much as poſſible, the diſſipation of the more volatile parts; an injury which cannot be wholly avoided, eſpecially when the ſubjects are diſſolved by water. The finer tears unpurified are in many caſes preferable, for internal uſe, to thoſe that have been ſtrained.

Pulverable bodies of an earthy texture, or ſuch as are brittle and not diſſoluble in water, after being reduced to a powder of moderate fineneſs, are brought to an impalpable or very ſubtile ſtate, by grinding them with a little water on ſome hard ſmooth inſtrument: the matter is commodiouſly dried on a chalk-ſtone, or rather on a cake of plaſter-of-Paris, which equally abſorbs the moiſture, without adhering to the powder, like ſubſtances of the chalky kind. Powders thus levigated are ſtill found to contain a quantity of groſs parts; which may be ſeparated by ſhaking the matter with water, till it is diffuſed through the fluid, and then ſuffering it to ſettle: the groſſer parts ſoon ſubſide; and the turbid liquor, being now poured off, depoſites more ſlowly the finer powder. By this proceſs, powders may be obtained of any degree of fineneſs; the tenuity being in proportion to the length of time that they remain ſuſpended in the fluid. On the ſame principle, the bolar earths may be ſeparated from the gritty matter naturally mixed with them, metallic bodies from thoſe of the earthy kind, and the calces of metals from metallic particles uncalcined.

Salts are purified from indiſſoluble admixtures, by ſolution in water and filtration through paper. Water diſſolves, in a boiling heat, a much larger quantity of moſt kinds of ſalts than it can retain when cold: thus, of nitre, it diſſolves when boiling near three times its own weight, but in cooling, a part of the ſalt gradually ſeparates, till at length, when grown thoroughly cold, in froſty weather, it does not retain one eighth its own weight, or one twenty-fourth of the quantity of ſalt at firſt diſſolved. The neutral ſalts, or thoſe compoſed of an acid and an alkali; ſeveral of thoſe which conſiſt of an acid and an earthy or metallic body; and many of the acid ſalts of vegetables; in this ſeparation from their ſolutions, concrete, unleſs too haſtily forced together by ſudden cooling, or diſturbed by agitation or other cauſes, into tranſparent maſſes, of regular figures peculiar to each particular kind of ſalt, and thence called cryſtals.—There are two general methods of recovering ſalts from their ſolutions in a cryſtalline form; one adapted to ſome ſalts, and the other to others. The one is, by keeping the ſolution in a gentle and equable warmth, that the water may gradually exhale, and leave the ſalt cryſtallized. The other is, by boiling down the ſolution, till, on dropping a little of it on a cold glaſs plate, cryſtalline filaments appear; then covering the veſſel, and ſuffering it to cool very ſlowly. Some of the difficultly cryſtallizable ſalts are made to ſhoot more freely, by adding, after ſufficient evaporation, a ſmall proportion of rectified ſpirit of wine, which weakens the diſſolving power of water on moſt kinds of ſaline bodies.---As different ſalts require different quantities of water to keep them ſuſpended; when two or more are diſſolved together, they begin to concrete at different periods of the evaporation, that, which requires moſt water for its diſſolution, ſhooting firſt, and leaving the more ſoluble diſſolved: on this foundation, ſalts are purified, by cryſtallization, from admixtures of one another.

2. *General pharmaceutic analyſis of vegetables by inciſion and preſſure.*

The medicinal juices of vegetables commonly reſide in diſtinct veſſels; and often exude upon the ſurface, from a ſpontaneous rupture, or artificial inciſions of them. The juices of herbs and trees iſſue chiefly during the ſummer heats; as the gum of the cherry-tree, the reſin of the fir, the ſweet juice of the manna aſh, and the unctuous exudations on the leaves of many plants; though ſome trees, as the birch and maple, yield early in the ſpring, on being bored or deeply wounded, a very copious ſweetiſh watery juice, of which, in ſummer, they yield little or nothing, the watery menſtruum being now perhaps conſumed. Some roots bleed gummy-reſinous juices in the ſpring, as bryony and angelica among us; others in ſummer, as the aſafetida roots in Perſia, and the ſcammony in Syria. Some fruits, particularly the ſeveral varieties of lemons, citrons, and oranges, have numerous veſicles, in their outer rind, filled with a fragrant oil; great part of which may be extracted, by rolling the fruit on a plane ſtuck full of ſharp points, which lay open the oily veſicles, or by rubbing it on a maſs of ſugar, which imbibes the oil.

From ſucculent herbs and fruits, the different fluid juices they contain are forced out, mixed, by bruiſing and preſſing them. Vegetables of the ſweet or ſaline kind, as the ſummer fruits and the acid herbs, ſeveral of the acrid plants, as arum and ſcurvygraſs; and thoſe of the lacteſcent kind, as dandelion and the ſpurges; generally give out by this proceſs great part of their active matter along with the watery fluid: but the juices expreſſed from aromatic herbs, as mint, have, for the moſt part, little or nothing of the peculiar ſmell, taſte, or virtue, of the ſubject; and many of the fragrant flowers, as lilies and violets, have their fragrance deſtroyed by the preſſure. The juices of plants, thick, turbid, and very impure when newly expreſſed, by ſettling and repeated ſtraining become clear; many, in this depuration, loſe nothing conſiderable of their virtue: from others, the medicinal parts, not diſſoluble in watery fluids, ſeparate and ſubſide along with the feculent matter. To the depurated juices, deſigned for keeping, a ſmall proportion of rectified ſpirit of wine may be added, which, on ſtanding for ſome time, generally throws down a freſh ſediment: the liquor is then to be put in ſmall bottles that have been waſhed with ſpirit and dried, a little ſweet oil poured on the ſurface ſo as nearly to fill the bottles, and the mouths ſlightly ſtopt: by this method moſt of the juices that bear depuration may be preſerved, in a cool cellar, for a year or two; excepting perhaps only the very fermentable ſweet ones, which can ſcarcely be long reſtrained from fermentation without boiling. Thoſe which are not injured in their virtue by evaporation, may be inſpiſſated to the conſiſtence of a ſyrup, or of a thick or ſolid extract: from thoſe of the ſaline kind, duly depurated and inſpiſſated, the ſaline part commonly ſeparates, on long keeping, in a cryſtalline form.

The kernels of fruits, the ſeeds that on being triturated with water form an emulſion or milky liquor, and ſome other vegetable ſubſtances, yield, on being ſtrongly preſſed, an oil; which, of itſelf, is flavourleſs and inſipid; but which, in ſome caſes, is impregnated with the ſmell and taſte of the ſubject. The aromatic ſeeds and kernels, as anniſeeds and nutmegs, and ſome of the purgative ones, as the ricini, are the principal ſubſtances that give out with their oils their peculiar virtues, the oils of moſt of the others, having no particular impregnation.

tion. There are, however, conſiderable differences among the unflavoured and inſipid oils; in their conſiſtence; in their diſpoſition to congeal by cold; in their diſpoſition to grow rancid by heat; in the degree of heat neceſſary to make them boil; in their power of diſſolving certain bodies; and in their combinability with fixt alkalies into ſoap. The extraction of the oil from the ſubject is greatly facilitated by heat; and hence the preparers of theſe oils for mechanic purpoſes generally warm to a conſiderable degree either the ſubject itſelf, or the iron plates of the preſs, or both. Where the product is intended for medicinal uſe, this practice is generally condemned; heat being apt to impreſs upon the oil an ungrateful flavour, and increaſe its diſpoſition to become rancid. Nevertheleſs, though a great heat has undoubtedly theſe effects, yet a gentle warmth is in ſome caſes neceſſary, and not, perhaps, very injurious in any: in winter at leaſt, both the ſubject and the apparatus may be warmed with ſafety, to the greateſt degree of heat that obtains in the ſhade in ſummer. The heat is never to be continued longer than the expreſſion requires; and the oil, as ſoon as drawn, is to be ſet in a cold place.

3. *General pharmaceutic analyſis of vegetable and animal ſubſtances by menſtrua.*

Water, the proper menſtruum of gums, of gellies, and of ſalts, extracts the gummy and ſaline parts of vegetables, and the gelatinous matter of animals. By the mediation of theſe principles, it diſſolves others of more activity, oils and reſins being made miſcible with water by the mediation of gums. All the ſubſtances which water extracts from vegetables or animals, it diſſolves almoſt unlimitedly, ſo as, by repeated infuſion on freſh parcels of the ſubjects, to become more and more impregnated with their active parts, till ſo far loaded as to have its further action impeded by the diminution of its fluidity: it generally takes up firſt the lighter and more grateful matter, and afterwards the groſſer and more diſagreeable; and hence, by ſkilful management, it may be richly impregnated with the former, without much admixture of the latter. The ſubject ſhould be moderately dried (unleſs it be of ſuch a kind as to loſe its virtue in drying) as in this ſtate it communicates a remarkably ſtronger impregnation than an equivalent quantity when freſh. Moſt leaves and flowers yield a great ſhare of their more active matter by cold maceration, or more readily by warm infuſion: by boiling, the diſſolving power of the water is for the moſt part greatly increaſed, and the volatile parts, if the ſubject contained any, are diſſipated with its ſteam.

The vapour which exhales in the boiling of odorous ſubſtances, and many of the pungent vegetables, in water, collected and cooled in proper veſſels, forms a liquor impregnated with their ſmell and pungency. This impregnation depends on a ſubtile principle, whoſe matrix is a volatile oil; of which oil a part often ſeparates in its own form, either floating on the ſurface or ſinking to the bottom according to its gravity; and which, from the ſpecific flavour of the ſubject being concentrated in it, is diſtinguiſhed by the name of *eſſential.* As this ſubtile oily matter is here ſeparated from the more fixt gummy parts that rendered it before almoſt unlimitedly diſſoluble, the water now can retain only a certain proportion of it, and generally but a ſmall one: if the diſtilled water, once ſaturated ſo that a part of the oil appears diſtinct, be rediſtilled from repeated freſh quantities of the ſubject, the aqueous fluid receives no further impregnation, and the quantity of oil that ſeparates proves proportionably larger than if freſh water had been uſed. Theſe oils differ from the expreſſed ones formerly mentioned, in being diſſoluble in ſpirit of wine, and volatile in the heat of boiling water; on either of which foundations, when expreſſed oils are mixed with eſſential ones, whether artificially, or in their expreſſion from ſubjects that contain both, the two oils may be completely ſeparated from one another. The ſophiſtications of the dearer eſſential oils, commonly practiſed, by the admixture of cheaper ones, can be diſtinguiſhed only by the ſmell and taſte: the ſmell and taſte which they communicate to liquors in certain known quantities, when diſſolved in ſpirit, or, by means of ſugar or mucilages, in water, is an uſeful criterion alſo of the degree of goodneſs of the oils when genuine; for the ſame kinds of vegetables, produced in different ſoils and ſeaſons, vary not only in regard to the quantity of water they are capable of impregnating by diſtillation, and in the quantity of oil they afford, but likewiſe in the ſtrength of the oil itſelf.

There are ſome ſubſtances whoſe virtues reſide wholly in an eſſential oil, and are wholly diſſipated in boiling: there are others, which have one virtue reſiding in an eſſential oil, and another which remains behind in the decoction, which laſt may be brought to a concentrated ſtate by evaporating the watery menſtruum with a gentle heat till the matter becomes thick or ſolid: there are others, which contain no oil, and whoſe virtue remains entire in the inſpiſſated extract, provided it has been ſkilfully prepared.

pared. A difference in the quantity of water will in many caſes occaſion a ſenſible variation in the qualities of the extract, by requiring more or leſs heat for its evaporation; for, independently of the diſſipation of the volatile parts, even thoſe of the more fixt kind ſuffer a conſiderable change from continued heat: by long boiling with water, ſweet ſubſtances become nauſeous, and the draſtic purgatives loſe their virulence, without any remarkable ſeparation of their parts. Some have endeavoured to avail themſelves of this obſervation, for converting the ſtronger cathartics and emetics, aſarum, tobacco, and others, into medicines of ſafety and utility; and report that extracts made from theſe plants, by long boiling with a large quantity of water, were found to act as mild aperients or deobſtruents: theſe kinds of preparations, however, muſt neceſſarily be too precarious in ſtrength to be received in general practice; the abatement of the virulence of the medicine depending on what no care can adjuſt to one ſtandard, the degree and continuance of the heat.

Pure ſpirit of wine, the appropriated diſſolvent of reſins and eſſential oils, and which diſſolves alſo certain ſaline bodies, as the ſweet ſaccharine ſalts of vegetables; extracts, for the moſt part, ſuch virtues of vegetable and animal ſubſtances, as reſide in thoſe principles, or in principles analogous to them. Of the ſubſtances, whoſe virtues reſide apparently in theſe principles, there are many, which give a ſtrong impregnation to water as well as ſpirit, but few that impart their virtues in an equal degree to the two menſtrua: from a compound of pure gum and reſin, water, by infuſion, extracts directly the gummy matter, and by the intervention of this, a part of the more active reſin, leaving great part of the reſin undiſſolved: whereas, contrariwiſe, pure ſpirit extracts directly the reſin, and leaves undiſſolved greateſt part of the inert gum, of which it does not appear to take up ſo much as water does of the reſin. Hence, in the analyſes of theſe kinds of ſubjects, it is generally obſerved that ſpirit loads itſelf with their active parts much more than water is capable of doing: that the extracts made with ſpirit are much ſmaller in quantity, and proportionably ſtronger, than the watery extracts: and that the ſpirituous tinctures, loaded with the reſinous parts, grow turbid on the admixture of water, and depoſite their pure reſin; the gummy matter, that the ſpirit had taken up, remaining diſſolved in the aqueous fluid, and being inſufficient in quantity to keep any conſiderable portion of the reſin ſuſpended. Hence ſaturated reſinous tinctures, thoſe eſpecially of the cathartic kind, require, in being diluted for exhibition, an admixture of gummy or ſaccharine matter, to keep the reſin divided, and to prevent its ſeparation: on this foundation may be prepared, from theſe kinds of tinctures, elegant gummy-reſinous extracts; by mixing with them, when inſpiſſated to the conſiſtence of a balſam, a thick ſolution of any ſimple gum or mucilage, and continuing the evaporation, with a gentle heat, till the matter becomes dry. In like manner, the reſinous and gummy parts of one ſubject, or thoſe parts which pure ſpirit extracts, and which water extracts after ſpirit, may in ſome caſes be advantageouſly united into one maſs; by ſeparately inſpiſſating the tincture and decoction to a certain thickneſs, and then mixing them together.

Pure ſpirit, which exhales or diſtils with a much leſs heat than water, carries off with it, for the moſt part, much leſs of the eſſential oils of vegetables. There are many ſubſtances, whoſe active parts are almoſt wholly diſſipated in the preparation of the watery extract, and almoſt wholly retained in the ſpirituous. There are ſome, however, whoſe oils are ſo volatile, as to riſe with pure ſpirit as perfectly as with water; and in this caſe, the diſtilled ſpirit proves ſometimes ſtronger than the diſtilled water; ſpirit keeping diſſolved all the oil that riſes with it; whereas, when water is uſed, a part of the oil frequently ſeparates.

Wines, as being compounds of water and inflammable ſpirit, take up ſuch parts of vegetables and animals as are ſoluble in thoſe liquors; but their diſſolving power is ſomewhat weaker than that of purer mixtures of water and ſpirit, on account partly of their viſcous unctuous matter, and partly of their acid. Wines are impregnated with the active parts of medicines, chiefly by maceration in the cold, or with a very gentle warmth; the heat, which is often advantageouſly applied for expediting or promoting the action of water and ſpirit, occaſioning in wines a diſagreeable alteration. Malt liquors are commonly medicated, by macerating the ingredients in them during the fermentation, or boiling or infuſing them in the wort.

Acids, both vegetable and mineral, ſomewhat weaken the diſſolving power both of water and ſpirit on bodies of the reſinous and oily kind; and when added to infuſions or tinctures, generally precipitate a part of what the menſtruum had before taken up: nevertheleſs, when acids are intimately combined with vinous ſpirits into what is called a dulcified liquor, the compound proves a more efficacious menſtruum, for ſome bodies, than the pure vinous ſpirit.

—Fixt alkalies generally increaſe the action of water on reſinous and oily bodies, and weaken or reſtrain its action on gummy ones, rendering water incapable of holding pure gums diſſolved: they have been ſuppoſed to promote the action of ſpirit on difficultly ſoluble reſinous bodies, but though the alkali deepens the colour of the tincture, the quantity extracted is found to be the ſame without as with it.—Volatile alkalies precipitate gums from water, like the fixt, but in other caſes their effects are more variable.

Expreſſed oils extract the odoriferous, reſinous and oily parts of vegetables; and with theſe they are ſometimes impregnated, both for the purpoſes of perfumes, and for external medicinal uſes. The more fragrant flowers give out their odour by cold maceration. The more fixt reſinous parts of the leaves of the plants are extracted, by boiling them in the oil till their watery moiſture has exhaled, that is, till they are almoſt criſp, and the oil appears tinged of a green colour. Animal fats, liquefied and boiled with recent herbs, become in like manner impregnated with their reſinous parts, and with the green colour reſiding therein. It does not appear, that the oils or fats receive, by this management, any valuable virtues: the heat, requiſite for making them boil, impreſſes an ungrateful ſcent, and diſſipates the more volatile parts of the ſubject: they may be impregnated more elegantly with the active parts of vegetables, by an admixture of eſſential oils or of ſpirituous extracts. The ſpirituous tinctures of the leaves of moſt plants are of a deep green colour; and the inſpiſſated extracts, though often brown or black in their ſolid or conſiſtent ſtate, give generally a like greenneſs to freſh ſpirit, to eſſential oils, expreſſed oils and fats.

Air, or its watery moiſture, ſeems to act as a true diſſolvent, in the ſame manner, though not ſo expeditiouſly, as water in its groſſer form. The aſtringent virtue of the walnut tree, and the purgative of the damaſk roſe, have been obſerved to be diffuſed through the air; though they are obviouſly not of the volatile but of the fixt kind, not exhalable by heat but diſſoluble by menſtrua. Hence the atmoſphere may become impregnated with all thoſe virtues of vegetables, which at leaſt watery menſtrua can extract: and hence many medicinal ſubſtances are gradually robbed by it of their virtues; powders the moſt ſpeedily, as expoſing the largeſt ſurface to its action.

4. *General chemical analyſis of vegetable and animal ſubſtances, and mineral bitumens, by fire.*

Vegetable ſubſtances, burnt in the open air, are reſolved, partly into ſmoke, which, condenſed, forms ſoot; and partly into white aſhes, which generally give out, on being boiled in water, a fixt alkaline ſalt. Animal ſubſtances, and mineral bitumens, are reſolved in like manner into ſoot and aſhes; with this difference, that the aſhes of theſe yield rarely any alkaline matter, and that they emit in burning a different kind of ſmell.

On ſubmitting the ſame ſubjects to a like degree of heat in cloſe veſſels, different products are obtained. From moſt vegetables there ariſes a watery and acid liquor; a reddiſh, empyreumatic, acrimonious oil, which ſwims on its ſurface; at length, in the utmoſt degree of fire, a thicker black oil, which ſinks to the bottom; and ſometimes a little volatile alkaline ſalt: from animals, a watery and alkaline liquor, a volatile alkaline ſalt, and oils of a more fetid kind: from bitumens, an acidulous liquor, an oil approaching to the nature of petroleum, and ſometimes a concrete ſubacid ſalt: a black inſipid coal remaining in all caſes behind. About the appearance of the firſt oil, there is commonly extricated a large quantity of air, or elaſtic vapour, which, if the fire is haſtily urged, and no exit allowed it, either burſts the veſſels, or blows off the receiver.

5. *Calcination of metallic bodies.*

The metals (*a*) called imperfect or deſtructible, as tin, lead, biſmuth, zinc, regulus of antimony, copper, and iron, on being expoſed to the joint action of fire and air, gradually loſe their metallic form, and change into a friable or powdery calx; which, urged with a ſtronger heat, either does not melt, or runs into a vitreous maſs, not miſcible with metals in their entire ſtate any more than earths and earthy glaſſes. Some emit flames in their calcination: zinc in particular burns ſtrongly and vividly: from whence it is preſumed, that an inflammable ſubſtance is one of the conſtituent principles of theſe metals, and that the loſs of their metallic form and qualities in calcination is owing to the avolation of this principle.

(*a*) The term *ſemimetal* is throughout this work avoided, as being liable to ambiguity. All the pure metallic bodies I have called by the general appellation of *metals*: ſuch of them as want malleability, are, I preſume, as properly diſtinguiſhed by the epithet *brittle* or *unmalleable*, as by a name which may be imagined to imply that one half of their ſubſtance is of an unmetallic nature, and which, in effect, has been often underſtood in this ſenſe, and accordingly applied to ores, vitriols, and metallic recrements.

The calcination is greatly promoted by the addition of nitre; which, with moſt of theſe metals, viſibly deflagrates, and is by all of them alkalized in the ſame manner as by charcoal or other inflammable ſubſtances. The calx is freed from the ſaline matter by ablution with water: a part of it commonly diſſolves in the water along with the alkalized ſalt, but either ſeparates ſpontaneouſly on ſtanding, or may be precipitated by adding any acid.

A little powdered charcoal, or any other inflammable matter not partaking of a mineral acid, added to the deſtructible metals in fuſion, prevents their calcination: and the calces and glaſſes, melted with the like additions, recover the principle which they had loſt, and are *revived* or *reduced*; that is, they reſume their metallic appearance, and all their former qualities. But, in order to this reduction, as calces in general melt much more difficultly than the metals themſelves, and ſome of them ſcarce at all when the fire acts on them through the ſides of a veſſel; an addition of fixt alkaline ſalt, borax, or fuſible glaſs, is generally requiſite, for bringing them into fuſion; as well as of inflammable ſubſtances, for reſtoring their metalleity.

All the metals diſſolve in acids; ſome in one acid, and others in another: the diſſolution, like that of abſorbent earths and alkaline ſalts, is generally accompanied with an effervеſcence, heat, and diſcharge of vapours. In this proceſs, the phlogiſton or inflammable principle of the imperfect metals, is abſorbed or expelled: hence the vapour, which ariſes during the diſſolution in the vitriolic acid of the metals which abound with this principle, is inflammable and truly ſulphureous: and hence the metal, precipitated from the acid by alkaline ſalts, or by other bodies void of inflammable matter, is found to be a true calx, which, like the calces made by fire, cannot be revived without the introduction of freſh phlogiſton.

The perfect metals, gold, ſilver and mercury, ſuffer no reſolution, or diſſipation of any of their principles, from any known power. If changed into the appearance of a calx, by fire or by additions, they are recoverable without loſs, either by the ſimple action of a ſtronger heat, or by the addition of ſuch ſubſtances as may barely abſorb from them the matter by which their form had been concealed.

All the WEIGHTS and MEASURES mentioned in this book, are thoſe of the London Pharmacopœia:—the *troy pound*, divided into twelve ounces, the *ounce* into eight drams, the *dram* into three ſcruples, and the *ſcruple* into twenty grains:—the wine *gallon*, divided into eight pints, the *pint* into ſixteen ounces, and the *ounce* into eight drams or two ſpoonfuls.

It is, however, to be obſerved, that the college of Edinburgh, in order to avoid the confuſion ariſing from the promiſcuous uſe of terms ſignifying both weight and meaſure, have thought proper entirely to aboliſh *liquid meaſure*, and to reduce every thing, as well *fluid* as *ſolid*, to *troy weight*.

THE

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MATERIA MEDICA.

ABIES.

FIR: an evergreen coniferous tree; with numerous, narrow, ſtiff leaves, ſtanding ſolitary, or unconnected at the baſes with one another.

1. Abies *Pharm. Pariſ.* *Abies conis ſurſum ſpectantibus ſive mas C. B.* *Pinus picea Linn.* The yew-leaved or ſilver fir; with a white bark, roundiſh-pointed leaves ſomewhat cloven at the tips, and ſhort cones ſtanding upwards: the leaves are marked on the lower ſide with three green lines and two white depreſſions.

2. Picea: *Abies picea Pharm. Pariſ.* *Picea major prima ſive abies rubra C. B.* *Pinus abies Linn.* The common, or red fir, or pitch tree; with a reddiſh bark; long ſlender quadrangular ſharp-pointed leaves, and long cones hanging downwards.

Theſe trees are natives of the northern climates: the firſt grows chiefly on dry, mountainous places; the ſecond in lower and moiſter grounds. In this kingdom, they are rarely found wild, particularly the firſt ſort: Norway, Switzerland, and ſome parts of Germany, produce both kinds in abundance.

All the parts of theſe trees contain a reſinous juice impregnated with eſſential oil; in ſmell not diſagreeable, in taſte bitteriſh and moderately pungent: from inciſions made in the trunks, one of the fineſt of the turpentines is obtained. The red fir appears to be the moſt reſinous; the ſilver fir is the moſt grateful: of both ſorts, the cones are more agreeable than the leaves, the young leaves than the old, and theſe than the wood. The leaves, though evergreen on the tree, loſe of their colour on being dried, and change in keeping to a yellow or brown.

Rectified ſpirit of wine, digeſted on the fir, diſſolves completely its active parts, along with which it takes up alſo ſome portion of the inſipid gummy or mucilaginous ſubſtance: from the freſh or new dried leaves it gains a yellowiſh green, from the cones and the wood a browniſh or yellowiſh red tincture. The filtered ſolutions, mixed largely with water, grow milky and throw off greateſt part of their reſin with its oil, which may thus be obtained in a ſtate nearly approaching to that of turpentine, the gummy ſubſtance being retained by the aqueous fluid. On committing the ſolutions to diſtillation, the ſpirit brings over with it a little of the lighter oil of the fir, ſo as to be ſenſibly impregnated with its ſmell; leaving behind an extract, different from the reſin ſeparated by water and from the native turpentines, in having an admixture of gummy matter, from which they are free.

Water, though it diſſolves little or nothing of the pure turpentines, yet, by the mediation of the gummy matter in the fir itſelf, extracts part of its reſin. In diſtillation with water, a conſiderable quantity of eſſential oil ariſes: the oil drawn from the wood is nearly ſimilar to the oil of turpentine: that obtained from the freſh cones is ſuperior, in ſubtility and fragrance, to all the oils of the terebinthinate kind uſually met with (*a*). The decoction remaining after the diſtillation, inſpiſſated to the conſiſtence of an extract, retains the bitteriſhneſs, and ſome ſhare of the pungency of the fir.

Oleum templinum verum *Germanorum.*

The tops and cones of the fir tree, by virtue of their balſamic juice, tend moderately to warm and ſtrengthen the habit, and promote perſpiration and urine, and the natural ſecretions in general. Among us, they are uſed chiefly by the common people, as an ingredient in diet-drinks; in ſome parts of Europe, they are preſcribed by phyſicians in decoctions and ſpirituous tinctures; for nearly the ſame intentions as the exotic woods. Frederic Hoffman the elder relates, that in a ſcurvy which raged among the Swediſh army, during their wars with the Muſcovites, a decoction of the leaves and tops of the fir, made in water or ale, was found an effectual remedy and preſervative (*b*). The Auguſtan college joins, to the balſam of the fir, the pungent virtues of *cochlearia*; by bruiſing the cones whilſt young, tender, and of a red colour, digeſting them for two days in four

Eſſentia abietis *Ph. Auguſtan.*

(*a*) Zimmermann, *Prælect. Chym. Neum.*
(*b*) *Clavis Schræderian.* p. 394.

times

times their quantity of ſpirit of ſcurvy-graſs, and then preſſing out and filtering the tincture, which is, doubtleſs, as the authors obſerve, a medicine of great efficacy. A ſpirit diſtilled from the young leaves is ſaid to be uſed in ſome places as a ſuccedaneum to Hungary water.

3. ABIES CANADENSIS *Pharm. Pariſ.* *Abies minor pectinatis foliis, virginiana, conis parvis ſubrotundis Plukenet.* *Pinus Balſamea Linn.* Virginia or Canada fir; with roundiſh-pointed leaves, ſometimes cloven, ſtanding like the teeth of a comb in two rows on each ſide the branches, and variegated underneath with a double line of whitiſh dots.

4. BALSAMEA; *Abietis taxi foliis ſpecies odore balſami gileadenſis Raii ſuppl.* Balm-of-gilead fir; ſo called from the fragrant ſmell of the leaves when rubbed. The leaves are roundiſh-pointed, and ſlightly cloven, nearly like thoſe of the ſilver fir: the cones are long and pointed, and ſtand erect.

THESE foreign firs, now naturalized to our own climate, promiſe to be ſuperior, for medicinal uſes, to the two preceding; their reſinous matter being of a finer and more grateful kind. From the Canada fir is extracted, in America, by wounding it during the ſummer heats, an elegant balſam, tranſparent and almoſt colourleſs, which is ſometimes brought into Europe under the name of *Balſamum Canadenſe.* The balm-of-gilead fir has a more agreeable fragrance, approaching to that of the celebrated balſam from which it receives its name: a valuable reſin exudes from the cones, in conſiderable quantity; and reſins nearly of the ſame kind may be extracted by ſpirit of wine, both from the cones and from the leaves.

ABROTANUM MAS.

ABROTONUM Ph. Lond. ABROTANUM Pharm. Edinb. Abrotanum mas anguſtifolium majus C. B. Artemiſia Abrotanum Linn. SOUTHERNWOOD: a plant, with woody brittle branches; numerous greyiſh green leaves, divided into ſlender ſegments; and ſmall yellow naked diſcous flowers, hanging downwards, in cluſters, along the ſides of the ſtalks and branches. It is a native of open mountainous places, in the warmer climates: with us, it is raiſed in gardens, from ſlips or cuttings; ſeldom producing ſeeds, and not often flowers: the leaves fall off in the winter: the roots and ſtalks are perennial.

THE leaves and tops of ſouthernwood have a ſtrong ſmell, to many people agreeable; and a nauſeous penetrating bitteriſh taſte: they loſe a little by drying both of their taſte and ſmell. The flowers are ſomewhat weaker than the leaves. The cortical part of the younger roots has a light not ungrateful bitterneſs, with little or nothing of the peculiar flavour of the herb.

Infuſions of the leaves made in water are of a browniſh hue, in taſte and ſmell not unpleaſant: decoctions are darker coloured and very nauſeous. In diſtillation with water, there ariſes an eſſential oil, of a bright yellow colour, in ſmell exactly reſembling the plant. This oil diſtils ſlowly, and towards the end of the proceſs proves very foul: rectified, or diſtilled a ſecond time with freſh water, it leaves behind a conſiderable quantity of an inodorous and almoſt inſipid reſinous matter. From ſixteen pounds of the freſh leaves and tops were obtained ſcarcely three drams of oil, which left in rectification above half a dram of reſin.

Tinctures of the leaves, made in rectified ſpirit, are of a deep green colour, and taſte ſtrongly of the ſouthernwood: the ſmell is covered by the ſpirit. The ſpirit, diſtilled off from the filtered tincture, has very little of the flavour of the herb: the remaining extract retains a conſiderable ſhare of its ſmell, and reſembles it more perfectly in taſte than an extract made by water; though it is much leſs ungrateful than either that extract or the herb in ſubſtance. Rectified ſpirit appears to diſſolve the aromatic part more eaſily, and the nauſeous part more difficultly, than watery menſtrua.

This bitteriſh pungent plant has been employed as a moderately ſtimulating deobſtruent, in different cachectic diſorders; as an anthelmintic; and as poſſeſſing ſome degree of an anodyne or antiſpaſmodic virtue depending on the oil or odorous matter. In the preſent practice, it is ſcarcely otherwiſe made uſe of than for external purpoſes, as an ingredient in diſcutient and antiſeptic fomentations; in which intention it appears to be of no inconſiderable efficacy. It has likewiſe been recommended in unguents for promoting the growth of hair; a virtue to which it does not appear to have much claim.

ABROTANUM FEMINA.

ABROTANUM FEMINA foliis teretibus C. B. Santolina Chamæcypariſſus Linn. LAVENDER-COTTON: a buſhy ſhrubby plant, all over hoary; with oblong ſlender leaves, compoſed each of four rows of little knobs ſet along a middle rib; and naked diſcous yellow flowers ſtanding ſolitary on the tops of the ſtalks. It is a native of the ſouthern parts of Europe; flowers, in our gardens, from June to near the end of ſummer; and holds its leaves all the winter.

This plant is ſuppoſed to agree in virtue with the foregoing *abrotanum*, and to be the moſt effectual of the two in hyſteric caſes, and as an anthelmintic. It has been cuſtomary among the common people to uſe, in this laſt intention, a decoction of the leaves, made in milk; which receives from them a thick conſiſtence, and a ſtrong, though not very diſagreeable taſte.

On careful examination, the two *abrotana* appeared to differ very conſiderably in quality. The *femina* is in ſmell weaker and leſs agreeable than the *mas*; in taſte, nauſeous and acrid, but void of the penetrating bitterneſs which prevails in the other. Infuſions, tinctures, and extracts, prepared from the *femina*, are more unpleaſant than thoſe of the *mas*, though not bitter. The eſſential oils of the two plants, and of conſequence their diſtilled waters and ſpirits, approach nearer in flavour to one another, though not entirely alike.

Theſe differences, doubtleſs, affect their virtues as internal medicines. Nevertheleſs, for fomentations, which is the principal uſe that either of them is applied to in the preſent practice, they may be looked upon as very nearly alike: hence the college of phyſicians of London, under the name of *abrotanum*, allow either the *mas* or *femina* to be taken indifferently.

ABSINTHIUM.

WORMWOOD: a perennial plant; with hoary, divided leaves; firm woody ſtalks, which die in the winter; and ſmall yellow naked diſcous flowers, hanging downwards, like little buttons, along the ſides of the ſtalks and branches.

1. Absinthium vulgare *Pharm. Lond. & Edinb. Abſinthium ponticum ſeu romanum officinarum ſeu dioſcoridis C. B. Artemiſia abſinthium Linn.* Common Wormwood; with large leaves, divided into ſeveral deeply indented ſegments, of a whitiſh green colour above, and whiter underneath, broader than thoſe of any other ſpecies of wormwood. It grows wild about dunghills, and on dry waſte grounds; and flowers in June or July.

The leaves of wormwood have a ſtrong offenſive ſmell, and an intenſely bitter nauſeous taſte: the flowers ſeem to be equally bitter, but ſomewhat leſs nauſeous*(a): the roots are warm and aromatic, without any thing of the bitterneſs or offenſiveneſs which prevail in the other parts of the plant. The leaves loſe a part of their ill ſmell, on being dried and kept for ſome time.

Wormwood leaves give out nearly the whole of their ſmell and taſte both to aqueous and to ſpirituous menſtrua. The watery infuſions, prepared without heat, are the leaſt ungrateful.

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*(a) The Edinburgh college, in their laſt edition, direct a tincture of the dried flowering tops of wormwood, in the proportion of ſix ounces to a quart of rectified ſpirit, under the title of *Tinctura Abſinthii.*

The colour of the infuſions made in cold water is a pale brown, in warm water a ſooty brown, in proof ſpirit yellowiſh. Rectified ſpirit gains from the freſh leaves a beautiful green, from the dry a reddiſh or brown tincture.

Rectified ſpirit elevates little from this plant in diſtillation: water brings over nearly the whole of its ſmell and flavour. Along with the aqueous fluid, there ariſes an eſſential oil, which ſmells ſtrongly and taſtes nauſeouſly of the wormwood, though not bitter. The oil drawn from the freſh herb is commonly of a dark green; from the dry, of a deep yellowiſh brown colour. The quantity of oil varies greatly, according to the ſoil and ſeaſon, in which the wormwood is produced: in ſome years, ten pounds have afforded upwards of two ounces; in others, twenty pounds have yielded little more than one ounce. Geoffroy obſerves, that it is in rainy ſeaſons, and moiſt ſoils, that it yields the moſt oil; that in dry years the oil is accompanied with a reſinous matter, and proves of a fine green colour; and that in wet ones it is leſs reſinous, and not green *(a)*.

Oleum abſinthii *Ph. Lond. & Ed.*

A decoction of wormwood, in water, long boiled, and inſpiſſated to the conſiſtence of an extract, loſes the diſtinguiſhing ſmell and ill flavour of the plant, but retains its bitterneſs almoſt entire. An extract made with rectified ſpirit contains, along with the bitter, nearly the whole of the nauſeous part; water carrying off, in the evaporation, all the oil, in which the offenſive flavour reſides, while pure ſpirit elevates very little of it. The watery extract gives

Extractum abſinthii *Ph. Ed.*

(a) Geoffroy, *Mem. de l'acad. royale des ſcienc. de Paris, pour l'ann.* 1721.

out its ſimple bitterneſs, not only to water again, but to rectified ſpirit.

Wormwood is a moderately warm ſtomachic and corroborant: for theſe intentions, it was formerly in common uſe, but has now given place to bitters of a leſs ungrateful kind. The above experiments, however, point out a method of obtaining from this plant a bitter ſufficiently elegant, of little or no particular flavour, and this either in a ſolid form, or in that of a watery or ſpirituous ſolution.

The eſſential oil is ſometimes given, in doſes of a drop or two, properly diluted by ſolution in ſpirit of wine, as a mild antiſpaſmodic. Its more frequent uſe is as a vermifuge, for which purpoſe, it is both applied to the belly, and taken in pills made up with crumb of bread: the ſpirituous extract, however, promiſes to be, in this intention, preferable to the pure oil; as it contains, along with the oil, all the bitter matter of the wormwood.

This plant very powerfully reſiſts putrefaction, and hence is made a principal ingredient in antiſeptic fomentations.

Boerhaave commends, in tertian agues, a medicated liquor, prepared by grinding about ſeven grains of the oil of wormwood with a dram of ſugar, and two drams of the alkaline ſalt extracted from the aſhes of wormwood; and afterwards diſſolving the compound in ſix ounces of the diſtilled water of the plant. Two hours before the fit is expected, the patient is to bathe his feet and legs in warm water, and then drink half an ounce of the liquor every quarter of an hour till the two hours are expired: by this means, he ſays, caſes of this kind are generally cured with eaſe and ſafety, provided there is no ſchirrhoſity or ſuppuration *(a)*. The medicine is, doubtleſs, a very ſerviceable aperient, where obſtructions of the viſcera prohibit the immediate uſe of bark, and in ſuch obſtructions as the imprudent uſe of aſtringents has given riſe to. Its virtues might be improved by an addition of the bitter watery extract; though the compound, thus laboriouſly prepared, would not be at all ſuperiour to a ſimple infuſion of the plant, in pure water, impregnated with a due proportion of fixt alkaline ſalt.

The roots of wormwood, though not hitherto, that I know of, introduced into medicine, promiſe to be applicable to ſome uſeful purpoſes; being moderately warm and aromatic, of a flavour ſufficiently grateful, and remarkably durable in the mouth. Their virtue reſides chiefly in the cortical part, the interiour woody matter being nearly inſipid. Rectified ſpirit extracts their flavour, more perfectly than watery liquors. The ſpirituous tincture is of a reddiſh brown colour: inſpiſſated, it yields an extract more grateful than the root in ſubſtance.

2. ABSINTHIUM MARITIMUM *Pharm. Lond. Artemiſia maritima Linn.* Sea-wormwood, falſely called in our markets Roman wormwood; with finely divided leaves, hoary all over. It grows plentifully about our ſalt marſhes, and in ſeveral parts on the ſea coaſt.

THIS ſpecies is in taſte and ſmell conſiderably leſs unpleaſant than the common wormwood; and hence is preferred by the college as an ingredient in ſome of the diſtilled waters. Even the eſſential oil, which contains the whole of its flavour concentrated, is ſomewhat leſs ungrateful; and the watery extract, ſomewhat leſs bitter, than thoſe of the common wormwood. Its virtues are the ſame, differing only in degree; it is leſs effectual as an antiſeptic and anthelmintic, on account of its being weaker; and more eligible as a ſtomachic, on account of its being leſs offenſive. A conſerve of the tops, made by beating them with thrice their weight of fine ſugar, is kept in the ſhops.

(a) Boerhaave, *Elementa Chemiæ, proceſſus* 39.

Conſerva abſinth. maritimi *Ph. Lond.*

3. Absinthium minus *Pharm. Pariſ. Abſinthium ponticum tenuifolium incanum C. B. Artemiſia pontica Linn.* Roman wormwood; with more numerous, more finely divided, darker coloured leaves, hoary only underneath. This is a foreign ſpecies, but as hardy, and as eaſily raiſed, as the others: the roots quickly ſpread, and ſend up abundance of new plants. Sea wormwood has been often ſold for it in the markets, though the difference betwixt the two, above pointed out, is very obvious on ſight.

Roman wormwood is conſiderably leſs ungrateful than either of the two foregoing: its ſmell is weaker, and not unpleaſant; and its bitterneſs is mixed with a kind of aromatic flavour, ſo as ſcarce to be diſagreeable. It appears to be the moſt eligible of the three as a ſtomachic and corroborant; in which intention, a conſerve of the tops has been greatly recommended, and is undoubtedly an elegant and uſeful preparation.

4. Absinthium Alpinum *Pharm. Pariſ. Abſinthium alpinum candidum humile C. B. Artemiſia glacialis Linn.* Mountain wormwood:

wood: procumbent, fine leaved, and covered with a gloſſy ſilk-like down (a).

5. Absinthium Valesiacum: *Abſinthium ſeriphium montanum candidum C. B. Herba alba Dod.* Mountain wormwood of Valais: erect, fine leaved, and covered with a cotton-like down: the leaves are curled about the edges, ſo as to appear, with their down, pulpy and of an oblong rounded figure (a).

Haller informs us, that the firſt of theſe plants is frequent in ſtony grounds on the Alps, and the ſecond by the ſides of ſandy roads in the territory of Valais in Switzerland; that the former is bitteriſh, aromatic, of great eſtimation among the inhabitants of the Alps, the common remedy againſt the intermitting fevers which often rage there, and for exciting the menſtrual diſcharges, to which the ſudden colds of thoſe countries give frequent checks: that the latter has an acrid aromatic ſmell and taſte, without bitterneſs, and promiſes, from its ſenſible qualities, to be a plant of great virtues. They have not yet been introduced into practice in this country.

ACACIA.

ACACIA vera Ægyptiaca. Acacia: a ſubaſtringent gummy ſubſtance, uſually of a firm conſiſtence, but not very dry; brought from Egypt, in roundiſh maſſes, wrapt up in thin bladders, from four to eight ounces in weight; outwardly of a deep brown colour inclining to black, inwardly of a reddiſh or yellowiſh brown;

(a) Haller, *Stirp. Helvetic. p.* 695: *Artemiſia* 2 & 3.

prepared by inſpiſſating, to a due conſiſtence, the juice expreſſed from the unripe pods of a large prickly tree called by Caſper Bauhine *acacia foliis ſcorpioidis leguminoſæ:* the *Mimoſa nilotica* of Linnæus.

Acacia has no manifeſt ſmell. Applied to the tongue, it quickly ſoftens, and diſcovers a moderately rough not ungrateful taſte, which is followed by a kind of ſweetiſhneſs. It diſſolves totally in water, except the impurities, which, in the ſpecimens I examined, amounted to a conſiderable quantity. Proof ſpirit diſſolves a part: rectified ſpirit extracts from it little or nothing. This juice appears therefore to be truly of the gummy kind; and to differ eſſentially, in its nature and pharmaceutic properties, from the generality both of aſtringent juices, as hypociſtis and terra japonica, and of aſtringent vegetables in ſubſtance, as biſtort and tormentil roots, whoſe ſtyptic matter is extracted by ſpirit of wine as well as water.

This mild gummy aſtringent may be given to advantage in diſorders ariſing from laxity and acrimony, as habitual diarrhœas, uterine fluors, and catarrhal coughs. It is uſed by the Egyptians againſt ſpittings of blood, in doſes of a dram; and employed in collyria for ſtrengthening the eyes, in gargariſms for quinſeys, and in glyſters for diarrhœas *(a)*. Among us, it is ſcarcely otherwiſe made uſe of than as an ingredient in mithridate and theriaca.

(a) Alpinus, *de plant. Ægypt. cap.* 4. & *de medicinâ Ægyptior. lib.* iv. *cap.* 14.

ACANTHUS.

ACANTHUS Pharm. Pariſ. Branca-urſina: Acanthus ſativus vel mollis virgilii C. B. Acanthus mollis Linn. BRANKURSINE or BEARSBREECH: a plant with large, elegantly ſinuated, ſoft leaves; among which ariſes a ſingle ſtalk, bearing a long ſpike of irregular monopetalous labiated fleſh-coloured flowers, the upper lip of each of which is wanting, the ſtamina ſtanding in its place. This plant is a native of moiſt warm ſoils in the ſouthern parts of Europe, and cultivated with us in gardens. It is perennial, and flowers in June and July.

THE roots and leaves of Brankurſine abound with a ſoft, inſipid, mucilaginous ſubſtance; which is readily extracted by coction or infuſion in water, and remains entire upon evaporating the liquid. The roots are the moſt mucilaginous; and the mucilage, obtained from them, is the moſt viſcous and tenacious.

Rectified ſpirit, digeſted on the leaves, extracts from them a fine deep green tincture; which, as the editor of the Wirtemberg pharmacopœia obſerves, is more durable than the green communicated to ſpirit by other herbs. The menſtruum receives no particular taſte or flavour from the plant.

Brankurſine has long been a ſtranger to practice in this country. In thoſe places where it is common, it is employed for the ſame purpoſes, to which the althea and other mucilaginous vegetables are applied among us.

ACER.

ACER MAJUS: Acer montanum candidum C. B. Acer Pſeudo-Platanus Linn. Great Maple, improperly called Sycamore: a large tree, with pentangular ſerrated leaves; producing ſmall greeniſh flowers, and a fruit compoſed of two capſules, including each a whitiſh ſeed at the end where they are joined, and ſpreading at the oppoſite end into a membranous wing. It is a native of the mountains of Switzerland and Auſtria, and now common in England.

All the parts of the maple contain a ſweet ſaccharine juice; which, exuding on the ſurface of the leaves, renders them ſubject to be preyed on by inſects. The roots, trunk, or branches, wounded early in the ſpring, bleed a large quantity of clear liquor; which, in its dilute ſtate, taſtes ſomewhat ſweetiſh; and being inſpiſſated, yields a brown coloured concrete ſugar, with a ſyrupy matter reſembling melaſſes.

The juice, unboiled, has been drank as an antiſcorbutic. The ſugar and melaſſes, which are ſaid to be leſs ſweet than thoſe extracted from the ſugar cane, and their ſweetneſs to be likewiſe ſomewhat different in kind *(a)*, are ſuppoſed to be more medicinal in diſorders of the breaſt. Conſiderable quantities of this ſugar, made from a ſpecies of maple in Canada, are imported for that uſe into ſome parts of Europe, particularly France: the ſamples which I have ſeen of it are of a brown colour, and of

Saccharum Canadenſe *Ph. Pariſ.*

(a) Kalm, *Suenſka vetenſkaps academ. handlingar,* 1751.

a more grateful ſweetneſs than the common brown ſugars.

ACETOSA.

ACETOSA, Lapathum acetoſum, Rumex. SORREL or Sour-dock: a ſpecies of dock with acid leaves.

1. ACETOSA PRATENSIS *Ph. Lond.* ACETOSA, *Pharm. Edinb. Acetoſa pratenſis C. B. Rumex acetoſa Linn.* Common Sorrel; with the leaves ſhaped like an arrow-head, and very ſhort or no ears at the bottoms.

2. ACETOSA ARVENSIS, *minor: Acetoſa arvenſis lanceolata C. B. Rumex Acetoſella Linn.* Sheeps Sorrel; with arrow-headed leaves, of which thoſe on the ſtalk have no ears, thoſe from the root long diverging ones.

3. ACETOSA *rotunda, P. Pariſ. Acetoſa hortenſis rotundifolia C. B. Rumex ſcutatus Linn.* Garden or French Sorrel; with roundiſh leaves and ears.

THE leaves of theſe plants are mildly acid, without any ſmell or particular flavour: the common ſorrel is the leaſt, the garden ſort the moſt agreeable. They were all formerly directed as officinals; and occaſionally made uſe of, for abating heat, quenching thirſt, and preventing or correcting a tendency to putrefaction, in febrile and ſcorbutic diſorders; but at preſent are leſs regarded, other vegetable acids having in good meaſure ſupplied their place.

The leaves yield, upon expreſſion, a large proportion of thick, turbid, green-coloured juice: which, on ſtanding till the feces have ſubſided, becomes clear and reddiſh, and in taſte more gratefully acid than the herbs in ſubſtance. This is one of the moſt elegant preparations of ſorrel for medicinal uſe, and may be advantageouſly joined, in ſcorbutic caſes, to the juices of the acrid herbs: the inhabitants of Greenland, who are very ſubject to theſe diſtempers, are ſaid to employ, with good ſucceſs, a mixture of ſorrel and *cochlearia (a)*.

Greateſt part of the acid matter of ſorrel may be obtained alſo in the form of a concrete ſalt; by inſpiſſating the depurated juice to a due conſiſtence, and ſetting it to cryſtallize. This ſalt is ſuppoſed to approach to the nature of tartar: from which, however, it obviouſly differs, in being more acid, more eaſily diſſoluble in water *(b)*, and much leſs, if at all, purgative.

The roots of the ſorrels have a roughiſh bitteriſh taſte, without any acidity. They have been looked upon as aperient and diuretic; and, in theſe intentions, have been ſometimes made ingredients in watery infuſions and decoctions, to which they communicate a reddiſh hue: the garden ſorrel gives the lighteſt, the common wild ſort the deepeſt red. It is obſervable, that acid liquors, which in general heighten vegetable reds, deſtroy this red tincture of ſorrel roots: alkalies change it to a purpliſh; chalybeate ſolutions, to a deep green.

The ſeeds of ſorrel are very ſlightly, if at all, aſtringent, without acidity or bitterneſs. They

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(a) Bartholinus, *Act. Haffnienſ.* 1671. *obſ.* 9.

(b) Neumann, *Chemical Works, p.* 257, 424.

had long a place in the ſhops, as ingredients in ſome of the old alexeterial compoſitions, from which they are now deſervedly expunged.

ACETUM.

ACETUM Pharm. Lond. & Edinb. VINEGAR: a vegetable acid liquor, produced by fermentation; either directly from fermentable juices or infuſions; or from ſuch as have been previouſly fermented into a vinous ſtate. The more ſpirituous the wine, the more acid is the vinegar.

VINEGAR is not a pure or ſimple acid, like thoſe of the mineral kingdom: in open veſſels, it grows vapid, ropy, and putrid, while the mineral acids remain unchanged. Diſtilled by a moderate heat, not exceeding that of boiling water, it yields firſt a phlegmatic liquor, afterwards a ſlightly acid one, which is ſucceeded by ſtronger and ſtronger acids; till the matter in the diſtilling veſſel becomes thick and unctuous like honey: the vinegar prepared from malt liquors contains more of this viſcous ſubſtance than that of wine, and hence is more diſpoſed to become ropy and ſlimy in keeping. This reſiduum, urged with a ſtronger fire, gives over an empyreumatic oil, and a penetrating acid ſpirit tainted with the ill ſmell and yellow colour of the oil. There now remains a black coal, which, burnt into white aſhes, yields a conſiderable proportion of fixt alkaline ſalt.

Acetum diſtillatum *Ph. Lond. & Ed.*

Pure fixt alkaline ſalt, ſaturated with the colourleſs diſtilled liquors, and afterwards exſiccated, contracts a yellowiſh or brown tinge;

and thus betrays, that the acid ſtill retains a portion of the oil. On gently melting the dry ſalt, the oily matter burns to a black coal, which ſeparates on diſſolution in water: the ſolution exhaled to dryneſs, leaves a perfectly white neutral ſalt, containing the pure acetous acid combined with the alkali. On adding to this compound a little oil of vitriol, the acetous acid is diſengaged, and may now be collected by diſtillation, in a highly concentrated ſtate, and of a very pungent volatile ſmell.

The quantity of fixt alkaline ſalt, which vinegar is capable of ſaturating, is one of the ſureſt criterions of its ſtrength. The beſt of the German vinegars, according to Stahl, ſaturate little more than one fortieth of their own weight; the French vinegars, examined by Geoffroy, above one thirty-fifth, and ſome of them no leſs than one twelfth; the common diſtilled vinegar of our ſhops about one twentieth *(a)*. By congelation, and by diſtillation from alkalies, as above-mentioned, and from ſome metallic bodies, particularly copper, the acid may be ſo far concentrated as to ſaturate near equal its own weight; a greater degree of ſtrength, than even the mineral acid ſpirit of ſea ſalt can eaſily be brought to.

(a) It cannot be affirmed that the ſtrengths of the ſeveral vinegars examined were exactly in the proportion of the above numbers, as the alkaline ſalt, uſed by different perſons or at different times, may have differed in purity or dryneſs, and as the common way of judging of the ſaturation is too vague for determining the quantity to any degree of nicety. For all trials of this kind, whether with vinegar or other acids, the alkaline ſalt (that of tartar is the moſt eligible) ſhould be previouſly melted, that all remains of watery moiſture may be expelled from it; and the ſaturation ſhould be determined by means of coloured papers, as mentioned at the end of this article.

The London college have in their laſt Diſpenſatory admitted a concentrated preparation of vinegar, under the name of *Acidum Acetoſum*, made by a ſimple diſtillation in a ſand heat of verdegris coarſely powdered and firſt well dried in a water bath. The liquor is purified by re-diſtilling. Its ſpecific weight to water is ſtated at 1,050 to 1,000.

The acetous acid, however purified or concentrated, differs eſſentially from all the others: —from the native vegetable acids, in ſubtility and volatility; not being obtainable in the form of a concrete ſalt, which moſt, perhaps all, of the native ones are; and riſing in diſtillation with a moderate heat, which very few of the native ones have been found to do; moſt of the acid juices giving over, in the heat of boiling water, only their aqueous fluid, and having greateſt part of their acidity deſtroyed by a ſtronger heat:—from the mineral acids, in its habitude to different bodies, and the nature of the compounds which it forms with them: thus, whatever alkaline, earthy, or metallic ſubſtance, the acetous acid be combined with, the addition of any mineral acid will disjoin them, the mineral taking the place of the acetous: neutral ſalts, compoſed of the acetous acid and fixt alkalies, diſſolve, totally and plentifully, in rectified ſpirit of wine, whilſt thoſe, compoſed of the ſame alkalies and mineral acids, are not at all ſoluble in that menſtruum: in this property, the acetous acid differs alſo from moſt, perhaps from all, of the acids of its own kingdom:—and from all acids in general, in its peculiar odour.

Vinegar diſſolves the elixated aſhes of vegetables, at leaſt in great part; animal earths, purified by incineration, or when naturally blended with but little gelatinous matter, as in ſhells; the earth of alum; and the mineral calcareous earths.—The ſolubility of calcareous earth in the acetous acid, and its precipitability by that of vitriol, afford a ready method of diſcovering the ſophiſtication of vinegar, ſaid to be ſometimes practiſed, with vitriolic acid. If a ſaturated ſolution of any calcareous earth, as chalk, made in ſtrong vinegar, be added to ſuch as is ſuſpected of containing vitriolic acid, no change will enſue if the vinegar was pure; but if it contained even a minute portion of that acid, the mixture will immediately become milky, and on ſtanding for a little time depoſite a white ſediment: if the calcareous ſolution be gradually dropt in, ſo long as it produces any milkineſs or cloudineſs, all the vitriolic acid will be abſorbed by the chalk, and as this new compound is exceeding ſparingly diſſoluble, nearly the whole of it will precipitate, ſo as to leave the vinegar almoſt pure.

It diſſolves, among metallic bodies, zinc, iron, copper, tin, lead, biſmuth, and regulus of antimony; the two laſt in very ſmall quantity, but ſufficient to give a ſtrong impregnation to the vinegar. It diſſolves lead more eaſily when reduced into a calx, than in its metallic ſtate: boiled even with the glaſs of lead, or in the common glazed earthen veſſels, in the glazing of which this metal is a principal ingredient, it extracts ſo much as to become ſtrongly tainted with the pernicious qualities of the lead.

It diſſolves the vegetable inſpiſſated juices, and ſeveral of the gummy reſins, and extracts the virtues of ſundry plants in tolerable perfection; but at the ſame time its acidity makes a notable a notable alteration in them, or ſuperadds a virtue of a different kind. Some drugs, however, for particular purpoſes, it excellently aſſiſts or coincides with, as garlic, ſquills, ammoniacum: and in many caſes, where this acid itſelf is principally depended on, it may be advantageouſly impregnated with the flavour of certain vegetables: moſt of the odoriferous flowers impart to it their fragrance; and the blue, bright red, and ſome others, tinge it at the ſame time of a fine purpliſh or red colour.

It unites, like the mineral acids, with rectified ſpirit of wine, into what is called adulcified liquor, provided the vinegar has been highly concentrated. On diſtilling the mixture with a boiling heat, a large proportion of a ſubtile fluid is obtained, ſimilar in its general properties to the æther prepared with the other acids (*a*).

It mingles equally with blood and its ſerum, and with moſt of the fluids of animals; not thickening or coagulating them, like the acids of the mineral kingdom; but tending rather, as Boerhaave juſtly obſerves, to attenuate and reſolve coagulations. It is likewiſe, when taken internally, leſs ſtimulating than the mineral acids, and leſs diſpoſed to affect the kidneys * (*b*).

THIS mild unctuous acid is a medicine of great uſe in the different kinds of inflammatory and putrid diſtempers, both internal and external.

(*a*) M. le Compte de Lauraguais, *Hiſt. Acad. Par.* 1759.

* (*b*) It is leſs liable to undergo changes in the firſt paſſages than the native vegetable acids, which have yet to go through the proceſs of fermentation. *Cullen.*

ternal. It is one of the moſt certain antiphlogiſtics and ſudorifics in high fevers, and one of the beſt preſervatives againſt peſtilential and other putredinous contagions. Fainting, vomiting, lethargic and hyſteric paroxyſms, are likewiſe frequently relieved, by vinegar, applied to the mouth and noſe, or received into the ſtomach: lethargic perſons are often found to be excited more effectually by vinegar blown into the noſe, than by the far more pungent volatile ſpirits. Boerhaave obſerves, that this acid counteracts, in a peculiar manner, the effects of ſpirituous liquors.

The daily uſe of vinegar, with food, is ſalutary in hot bilious diſpoſitions, and where there is a tendency to inflammation or putrefaction. It is prejudicial to children, to aged, hyſterical, and hypochondriacal perſons, in cold pale phlegmatic habits, where the veſſels are lax, the circulation languid, and the power of digeſtion weak. It tends in all caſes, if uſed freely, to prevent corpulence; Hoffman (a) ſuſpects that it produces this effect by impeding the formation of chyle, or deſtroying the union of the unctuous and ſerous fluids of which chyle is compoſed; an effect common to all acids, as appears from their coagulating milk and artificial emulſions. I have known great corpulence reduced by the liberal uſe of vinegar, which is the acid commonly employed for this purpoſe, but not with impunity; diſeaſes ſucceeding, which eluded the power of medicines, and proved at length fatal.

Combinations of vinegar with different earthy bodies differ in virtue according to the nature of the earth. A ſolution of the alumi-

(a) *Philoſophia corp. human. morboſi, par.* iii. *cap.* 3. § 7.

nous earth in this acid is ſtrongly ſtyptic; of vegetable earths, or magneſia alba, bitteriſh and gently purgative: both theſe ſolutions are milder, and leſs ungrateful, than thoſe of the ſame earths made in the mineral acids, and though as yet unknown in practice, certainly deſerve to be introduced. Solutions of different animal and the calcareous mineral earths are bitteriſh and ſubauſtere, in various degrees; and ſuppoſed to act as mild reſolvents, ſubaſtringents, or diaphoretics.

Combinations of vinegar with fixt alkaline ſalts, are uſeful aperients, diuretics, and cathartics. I have known two drams of the alkali, diſſolved in as much vinegar as was ſufficient to ſaturate it, occaſion ten or twelve copious watery ſtools, and a plentiful diſcharge of urine, without griping or fatiguing the patient. A mixture of alkali and diſtilled vinegar, evaporated to a dry ſalt, is kept in the ſhops; purified to perfect whiteneſs, by gentle fuſion and ſolution in water *: this preparation is given in doſes of ten or twenty grains as a mild aperient, and to a dram or two as a purgative and diuretic.

It is difficult, in the common way of managing the proceſs, to hit the exact point of ſaturation between the acid and the alkali. After fourteen parts of diſtilled vinegar have been gradually poured upon one part of the ſalt, the addition of a little more of the acid will occaſion no further efferveſcence while the mixture is cold; but if well heated and ſtirred, the efferveſcence begins again, and continues till four or five parts of freſh acid have been added: on exhaling the aqueous fluid, the remaining dry ſalt will generally ſtill raiſe an efferveſcence with freſh vinegar, and require

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* Sal diureticus. Terra foliata tartari, & arcanum tartari, *vulgo.* Kali acetatum *Ph.Lond.* Alkali fixum vegetabile acetatum, *vulgo.* Tartarum regeneratum, *Ph. Ed.*

two or three parts more of the acid to render it completely neutral. There is, therefore, this advantage, in reducing the ſalt to a dry form, that the perfect neutralization is obtained with greater certainty than when the ingredients are barely mixed together. The purification of the dry ſalt, or ſeparation of its oil, is intended to render it fitter for weak ſtomachs, on which it would not ſit ſo eaſily in its common impure ſtate; though the medicine, thus purified, is in ſome particular caſes leſs to be depended upon than the oily ſalt. It may be obſerved, that the imperfection of the oily ſalt, which the purification is deſigned to remedy, does not depend upon the oil as ſuch, but on its receiving ſome degree of burnt taint from the too ſtrong heat commonly employed in the evaporation, and may therefore be effectually prevented by the prudent uſe of a water-bath. A teſt of the purity of the ſalt is its perfect ſolubility in rectified ſpirits of wine, without any reſiduum.

Aqua Ammoniæ acetatæ *Ph. Lond.*

Spiritus Mindereri *Pb. Ed.*

Combinations of vinegar with volatile alkaline ſalts, commonly made with diſtilled vinegar added gradually to the ſalt till the effervescence ceaſes, ſcarcely yield any ſolid ſalt, the ſaline matter evaporating with the watery fluid, or even before it: on diſtilling the mixture in a retort, a ſalt ſometimes concretes about the ſides of the receiver, but liquefies again as the veſſels grow cold. Theſe mixtures have little purgative virtue, but operate powerfully as aperients; by urine, if the patient walks about in the cool air; by perſpiration or ſweat, if kept warm in bed. They are principally made uſe of in this laſt intention, in doſes of half an ounce: and as they act without irritation, they have place in inflammatory caſes, where the warm ſudorifics, if they fail of exciting a ſweat, aggravate the diſtemper.

Great care ought to be taken in the neutralization of this liquor, which is very difficult to be hit exactly by the common method. The beſt way of judging of the ſaturation is, by trying the liquor from time to time with certain coloured vegetable juices, or on paper ſtained with them. A thick writing paper may be ſtained pale blue on one ſide with the blue preparation of archil commonly called lacmus; and pale red on the other ſide by a mixture of the ſame infuſion with ſo much dilute ſpirit of ſalt as is juſt ſufficient to redden it. If a ſmall ſlip of this paper be dipt occaſionally into the liquor to be tried, or a drop of the liquor applied upon both ſides of the paper; the red ſide turns blue ſo long as any of the alkali remains unſaturated; the blue ſide turns red when the acid begins to prevail; and no change at all is produced when the ſaturation is complete. This way of trial I ſtrongly recommend to the apothecary in making all neutral mixtures, as he may thus at all times find, expeditiouſly and with certainty, the exact point of neutralization, which is not perhaps poſſible to be found by the common way of judging from the efferveſcence: how precarious and indeterminate a mark the ceſſation of efferveſcence is, is apparent from the obſervations on the preceding preparation. Where lacmus cannot be procured, the paper may be coloured with the juices of certain blue flowers, as violets, iris, cyanus, &c. or with the blue juice preſſed out from ſcrapings of the cortical part of common radiſh roots: with theſe juices it is ſufficient to ſtain the paper on one ſide, this one colour diſcovering both acidity and alkaleſcence, the former changing it red, and the latter green; but the change produced by liquors ſlightly alkaline is much leſs conſpicuous than that produced by the ſame liquors on the red paper above-mentioned, which is therefore to be preferred.

* *ACONITUM.*

ACONITUM Pharm. Lond. & Edinb. Aconitum Napellus Linn. BLUE WOLFSBANE. This is a perennial plant, having many ſtalks three feet high or upwards ariſing from one root; alternate petiolated leaves divided into five parts, each portion cut into linear ſegments; and terminal bunches of irregular blue flowers with five petals, many ſtamina, and three piſtils, ſucceeded by three capſules containing ſeveral ſeeds. It is a native of various parts of Europe, and of Virginia; and is planted in gardens with us.

Blue wolfsbane when freſh has a ſtrong odour, but no peculiar taſte. The leaves powdered are ſaid by Stœrck to impreſs the tongue with a durable acrimony; but Bergius (a) aſſerts that he did not find this to be the caſe; and from this circumſtance, and the figure of the plant given by Stœrck, he concludes that the ſpecies with which he made his experiments was not the *Napellus*, but the *Aconitum Cammarum* of Linnæus, which much reſembles it (b). The expreſſed juice has an ungrateful ſmell, and an acrid, ſlightly ſtyptic taſte. On inſpiſſation it yields an extract, of ſimilar ſmell and taſte, and ſubſaline.

Succus ſpiſſatus Aconiti *Pharm. Ed.*

The freſh plant has long been known as one of the moſt virulent of the vegetable poiſons.

(a) *Mat. Med.* 483.

(b) Haller (*Stirp. Helv.*) makes the ſame obſervation.

It occaſions convulſions, giddineſs, inſanity, violent purgings both upwards and downwards, faintings, cold ſweats, and death itſelf. Dr. Stœrck was the firſt who ventured to introduce it into medicine. He began with extremely ſmall doſes of the extract, and proceeded to thoſe of half a grain, a grain, two grains, and ſo on to the quantity of ten, twenty, and even thirty grains, which excited a ſweat without inconvenience; and by perſiſting in the uſe of it, great relief was obtained in fixed rheumatic and arthritic pains, ſchirrhous glandular tumours, venereal nodes, anchyloſes, amauroſis, and other ſimilar complaints. Other practitioners have experienced the ſame good effects in ſome degree, and the Edinburgh college has received the extract as an officinal. In this, as in all the other medicines of ſuſpicious and dangerous properties, it is proper to begin with very ſmall doſes, and increaſe them as they can be borne.

ADIANTHUM.

MAIDENHAIR: an evergreen plant; with ſlender, ſmooth, ſhining blackiſh ſtalks; producing no manifeſt flower. The ſeeds are a fine duſt, lying in roundiſh ſpecks, about the edges of the backs of the leaves, which curl over and cover them.

1. ADIANTHUM *Pharm. Pariſ. Adianthum verum. Capillus veneris: Adianthum folio coriandri C. B. Adiantum capillus veneris Linn.* True maidenhair: about half a foot high, with ſeveral pinnæ of little roundiſh ſinuated or nearly triangular leaves towards the tops of the ſtalks.

2. Adiantum Canadense *Pharm. Pariſ. Adianthum fruticoſum brazilianum C. B. Adiantum pedatum Linn.* Canada maidenhair: larger, with ſpreading branches.

The firſt ſort grows wild in Italy and the ſouthern parts of France, from whence the dry leaves are ſometimes brought to us. The ſecond, a native of America, is cultivated in ſome of our gardens.

The leaves of both the maidenhairs have a ſlight ſweetiſh roughiſh taſte, and a pleaſant but weak ſmell, very perceptible when boiling water is poured on them. They readily give out to the water the whole of their ſmell, taſte, and medicinal virtue: the infuſions are not ungrateful; particularly that of the Canada ſort, whoſe flavour is both pleaſanter and ſtronger than that of the other. Infuſions or decoctions of them, inſpiſſated, yield a moderately rough, bitteriſh, mucilaginous extract. Rectified ſpirit of wine takes up their taſte and flavour, and gains from them a deep green colour, but diſſolves little of the mucilaginous ſubſtance, in which a conſiderable part of their virtue conſiſts: the extract, obtained by inſpiſſating the tincture, is leſs in quantity, and ſtronger in taſte, than that made with water.

Maidenhair has long been held in eſteem againſt diſorders of the breaſt; for promoting expectoration, ſoftening recent coughs, and allaying the tickling in the throat occaſioned by defluctions of thin rheum. For theſe purpoſes, a ſyrup of the true ſort, flavoured with a little orange-flower water, has been uſually brought from France; and a ſyrup of the Canada ſort, made with maple ſugar, is ſometimes received from America. The virtue of the maidenhair is obtainable, however, to much better advantage, by drinking an infuſion of the herb as tea, ſweetened either with ſugar, or by the addition of a little liquorice. The Engliſh maidenhair has been commonly ſubſtituted in the pectoral ſyrups and infuſions made among us: the Canada ſpecies, which appears to be ſuperiour to both, is ſaid to have been long made uſe of in France, and has lately been introduced into practice in this country.

* *AER FIXUS.*

IT is not here intended to give a chemical account of the different kinds of air. It is well known to all, in any degree converſant with the ſubject, that beſides the air which we breathe, there have been diſcovered other ſpecies of permanently elaſtic inviſible fluids, poſſeſſing very different properties. Of theſe, one of the beſt known, and the only one as yet applied to medical purpoſes, is the *Fixed*, *Fixable*, or *Mephitic Air*, or *Gas*.

THIS kind of air is naturally contained in a great variety of ſubſtances; and is ſet free in many proceſſes of art. Every kind of vinous fermentation extricates a large quantity of it, which floats on the ſurface of the fermenting liquor. It is expelled from alkaline ſalts, and from abſorbent earths, by the action of fire, and of acids. The properties by which it is principally diſtinguiſhed, are, its extinguiſhing flame, being deſtructive to animal life when inſpired pure and in large quantity, and being readily abſorbed by water, to which it gives a ſlightly acid taſte, accompanied with a degree of briſkneſs and ſpirit. It has the general properties of a weak acid, of a very volatile nature.

The idea of its medical virtues ſeems to have ariſen chiefly from ſome experiments of its great antiſeptic power when applied pure; and from the diſcovery of its preſence in large proportion in ſome of the moſt celebrated mineral waters, and alſo in other ſubſtances very efficacious in the cure of particular diſeaſes.

At preſent, fixed air is conſiderably employed in medicine, chiefly in the following ways.

The celebrated antiemetic mixture of Riverius, compoſed of a ſpoonful of lemon juice and a ſcruple of ſalt of wormwood taken in the act of efferveſcence, is ſuppoſed to owe its efficacy chiefly to this principle, which is ſet free during the combination. On this foundation, its uſe is extended to many diſeaſes in which a tendency to putridity is ſuſpected. Any other acid may be ſubſtituted with equal advantage as far as the fixed air is concerned.

By various contrivances, the air expelled from an abſorbent earth by the addition of an acid is received into water, in which it diſſolves, communicating to the liquor the qualities abovementioned. This becomes a very grateful beverage in fevers and putreſcent diſeaſes, being cooling, antiſeptic, and at the ſame time cauſing a temporary glow in the ſtomach. It ſhould frequently be made freſh, and kept well corked, as the aerial ſpirit very readily flies off again from the water. As fixed air is in reality an acid, water impregnated with it may be neutralized by an alkali, thus forming an agreeable neutral julep, which is found to be an uſeful refrigerant and diuretic. If a few clean iron filings are thrown into water to be impregnated with fixed air, ſo much of the iron is diſſolved by its means, as to produce an artificial chalybeate, poſſibly not inferiour in virtue to the moſt celebrated natural ones.

As the antiſeptic powers of fixed air ſeem to be moſt conſiderable when a ſtream of the pure air itſelf is thrown upon the matter to be ſweetened, ſome practitioners have injected bladders full of it by way of clyſter where the *primæ viæ* were loaded with highly putrid fæces. On this principle, too, patients with ulcerated lungs have been directed to reſpire fixed air as it roſe from an efferveſcing mixture; and, notwithſtanding the inſtantly fatal effects of breathing this air abſolutely pure, it was found to be perfectly innoxious when thus paſſing through a body of atmoſpherical air. The ſame vapour has alſo been received upon the naked ſurface of cancerous and other putrid ulcers, with a view to ſweeten and correct the diſcharge.

In theſe methods has this ſubſtance been directly applied to medical purpoſes. But its application has by ſome been ſuppoſed to be indirectly much more extenſive, as they have attributed to it the efficacy of various other remedies. Fermented and fermentable liquors, fruits and freſh vegetables, have been thought uſeful in putreſcent habits and diſeaſes chiefly as affording a large ſupply of this principle, which might be abſorbed by the ſtomach and inteſtines. The uſe of Wort in the Sea Scurvy (ſee the article *Frumentum*) was profeſſedly ſuggeſted by Dr. Macbride on this ſuppoſition.

From what has been above ſaid, the experienced reader will eaſily perceive in what claſſes of diſeaſes this medicine may be expected to be ſerviceable. There is one diſorder, however, in which its propoſed uſe may not appear ſo deducible from its obvious qualities: this is, the ſtone in the kidneys and bladder. It is well known that the medicines from which moſt of late years has been expected in theſe caſes, are lime-water and cauſtic alkali, the direct chemical oppoſites to fixed air. But as the nature of urinary calculi is acknowledged to be very various, it is not unreaſonable to propoſe oppoſite ſolvents for them. That calcareous earth may be rendered ſoluble in water by the medium of fixed air, is not to be doubted; and there are calculi which are certainly calcareous. From indiſputable experiments it appears, that pieces of calculi have undergone a ſolution out of the body in water impregnated with fixed air; but it can ſcarcely be hoped that the menſtruum will reach the bladder in ſo concentrated a ſtate. Caſes have, however, been publiſhed, in which manifeſt relief was obtained from the free uſe of a beverage of water ſaturated with fixed air; and it has this advantage above alkaline ſolvents, that ſubſtances abounding in fixed air are more friendly to the general health than alkaleſcent ones. It has been propoſed to throw pure fixed air directly into the bladder by a ſuitable apparatus; but no experiment of this kind has been made public.

The reader who wiſhes for further information concerning the medical uſes of fixed air, may conſult the ingenious *Commentary* on the ſubject by Dr. Dobſon.

ÆRUGO.

ÆRUGO Pharm. Lond. & Edinb. Ærugo vel viride æris Ph. Pariſ. VERDEGRIS: copper corroded by a fermented vegetable acid into a bluiſh green ſubſtance. The greateſt quantities are prepared about Montpelier, by ſtratifying copper plates with grape ſtalks, that have been previouſly ſoaked in ſtrong wine, and expoſed to its vapour during a ſecond fermentation of the wine continued to an acetous ſtate *(a)*: the ſubtile acid, with which the ſtalks are thus impregnated, corrodes the ſurface of the plates, in a few days, into verdegris; which is afterwards ſcraped off, moiſtened, and packed up in ſkins. The maſſes, as brought to us, have generally ſome grape ſtalks intermixed: theſe may be ſeparated by pulverization, as being leſs pulverable than the verdegris itſelf. The goodneſs of verdegris is judged of from the deepneſs and brightneſs of its colour, its dryneſs, and its forming, when rubbed on the hand with a little water or ſaliva, a ſmooth paſte free from grittineſs.

Distilled verdegris *ſo called.*

THIS concrete is partially diſſoluble in water and in rectified ſpirit, and almoſt totally in vinegar: from the acetous ſolution, well ſaturated, and left to exhale ſlowly in a warm air, the greateſt part of the verdegris may be recovered in a cryſtalline form. The cryſtals, diſtilled with a ſuitable fire, in a retort or other like veſſel, give over the acetous acid, in a highly concentrated ſtate, but ſomewhat altered by the proceſs.

Verdegris is employed externally for deterging foul ulcers, and as an eſcharotic. Hoffman *(b)* recommends it particularly for deſtroying the calloſities of old fiſtulæ: tents of powdered

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(a) V. Montet, *Mem. de l'acad. des ſcienc. de Paris pour l'ann.* 1750 & 1753.

(b) Med. rational. De ulceribus.

verdegris, made up with ſaliva, or other liquids not fat or oily, conſume, he ſays, the hardeſt callus, in three or four days, ſo as to render it completely ſeparable. A detergent liniment is prepared, by gently boiling one part of verdegris in fine powder, with ſeven of vinegar, and adding to the ſtrained liquor fourteen parts of honey, then boiling the mixture till reduced to a due conſiſtence. On keeping this mixture for ſome time, a thick matter, containing greateſt part of the verdegris, falls to the bottom, and a thinner floats on the top: this laſt is the part made uſe of, unleſs where particular occaſions require it to be rendered more acrid by ſhaking up the thick among it. In the laſt Edinburgh diſpenſatory, an ointment is directed, compoſed of white wax and reſin each two ounces, olive oil one pint, and verdegris half an ounce. When theſe kind of applications are employed for venereal or other ulcerations in the mouth and tonſils, great caution is requiſite, on the part of the patient, to guard againſt any portion of them paſſing into the ſtomach; an accident which is ſaid to have ſometimes happened, particularly in children's caſes, and to have produced very dangerous and even fatal conſequences.

Oxymel Æruginis *Ph. Lond.*

Unguentum ex Ærugine *Ph. Ed.*

Verdegris is rarely or never given internally. Some recommend it, indeed, in the doſe of a grain or two, as an emetic, which operates almoſt as ſoon as received into the ſtomach, and which may therefore be of uſe, where poiſonous ſubſtances have been taken, to procure their immediate rejection. It appears, however, highly imprudent, to have recourſe, on ſuch occaſions, to a remedy in itſelf ſo dangerous and ſo virulent; and more eſpecially as a ſpeedy evacuation may generally be ob-

taind,

tained, by means of ſubſtances, which are not only innocent, but at the ſame time weaken the force of the poiſon by diluting and obtunding it; as warm water, milk, oils.

AGARICUS.

AGARIC: a fungus, growing on the trunks of trees, without any pedicle; internally of a ſimple and uniform ſtructure throughout its whole ſubſtance.

1. Agaricus *ſive fungus laricis C. B.* Agaric: covered with a brown bark, full of ſmall holes underneath; internally white.

This fungus is met with on old larch trees, in the Levant, and in different parts of Europe: that produced in the Levant is accounted the beſt, but from what particular place or country the ſhops receive it, is not very clear.—It comes forth on the tree in the beginning of ſpring, and continues to increaſe till autumn: at this time, it is cut off, the cortical part ſeparated, and the internal part expoſed for ſome weeks to the ſun, by which its whiteneſs is improved. It is brought into the ſhops in irregular pieces, of different magnitudes, of a chalky whiteneſs, and very light: the beſt is eaſily cut with a knife, friable betwixt the fingers, and has no hard, or gritty, or coloured veins.

Agaric has no remarkable ſmell: chewed, it impreſſes firſt a conſiderable ſweetneſs, which is followed by a nauſeous acrimony and bitterneſs. It is difficultly reduced to a fine powder in a mortar, on account of its fungous texture:

it may be rendered more eaſily pulverable, by moiſtening it with a ſolution of gum tragacanth, and afterwards thoroughly drying it.

It gives out little of its active matter to aqueous menſtrua: after long boiling in water, it retains great part of its taſte, and proves remarkably viſcid and tenacious. The decoction has little taſte or colour: inſpiſſated, it leaves a ſmall quantity of a brown coloured nauſeous extract.

Rectified ſpirit takes up nearly the whole of the active matter, leaving the agaric almoſt inſipid. The tincture is of a fine yellow colour, and of an unpleaſant ſweetneſs, which continues long in the mouth, and in good meaſure covers the heat and pungency of the ſpirit. The extract, remaining on diſtilling off the ſpirit, diſcovers leſs of the ſweet, and more of the offenſive bitterneſs of the agaric. Proof ſpirit has nearly the ſame effect as the rectified.

Theſe experiments were made on the internal ſubſtance of agaric, as commonly met with in the ſhops. The cortical part ſeems to be of a different quality: Mr. Boulduc relates, that a ſpirituous tincture, drawn from this, had ſuch an abominable taſte, that a ſingle drop, laid on the tongue, occaſioned vomiting, and a loathing of food for a whole day *(a)*. This fungus appears to differ alſo greatly in quality, at different periods of its growth: Bellonius informs us, that when full of juice, before it has come to maturity, its offenſive effluvia are apt to excite violent ſymptoms in thoſe who incautiouſly cut it from the tree *(b)*.

(a) Boulduc, *Mem. de l'acad. roy. de ſcienc. de Paris, pour l'ann.* 1714.

(b) Bellonius, *de arborib. conif. &c. p.* 26.

Agaric, taken from a ſcruple to two drams or more, is ſaid to act weakly, though not very mildly, as a cathartic. It was formerly held in conſiderable eſteem, and ſuppoſed to evacuate peccant humours from the remote parts of the body: but the great ſlowneſs of its operation, from which alone that quality appears to have been deduced, its occaſioning little evacuation, and being commonly productive of nauſeæ, ſickneſs, and gripes; have brought it now deſervedly into diſuſe. Gummy or mucilaginous ſubſtances, with which it was formerly made into troches and pills, in ſome degree correct its ill qualities: aromatics are, in this intention, of very little uſe. Extracts made from it with vinegar, with wine, and with water in which a little fixt alkaline ſalt has been diſſolved, are ſaid to purge more effectually, and with leſs inconvenience, than the agaric in ſubſtance; though even theſe preparations do not appear to be equal to the more common and experienced cathartics. The antients ſuppoſed it to be poſſeſſed of alexiterial powers, and in conſequence of this imaginary virtue made it an ingredient in the theriaca, which is the only officinal compoſition wherein it is now retained.

2. Agaricus quercinus, *fungus igniarius: Agaricus Ph. Edinb. Agaricus pedis equini facie Tourn. Fungi arborei ad ellychnia J. B. Boletus igniarius Linn.* Agaric of the oak, called by ſome, from its readily catching fire, touchwood or ſpunk: growing in form of a horſe's hoof; externally of an aſh colour, internally duſky coloured, ſoft and tough. Though denominated from the oak, on which the beſt ſort is ſuppoſed to be produced, the ſame fungus is

found

found on ſeveral other kinds of old trees, throughout Europe.

The agaric of the oak has lately come into eſteem as an external ſtyptic. It has been ſaid to prevent hæmorrhages after amputations, as effectually as the painful operation by the needle; and to reſtrain bleedings in wounds, of ſeveral days or weeks ſtanding, where the parts are become ſo rotten as to become incapable of bearing ligatures. For theſe purpoſes, the internal ſoft part of the fungus, divided into pieces of different ſizes, and beaten with a hammer till it may be eaſily torn with the fingers, is applied to the orifices of the veſſels, with the uſual dreſſings over it. In a ſhort time the extremities of the veſſels are ſaid to be found contracted into a conical ſhape, and the orifices ſtopt with plugs of coagulated blood, ſufficient to reſiſt the force of the circulation.

Caſes have been publiſhed, in which this application ſeemed to anſwer the character given it *(a)*: in others, and thoſe not a few, it proved ineffectual. Some have remarked, that where it ſeemed to ſucceed, the ſubjects were brought ſo low before the operation, that little danger was to be apprehended from a hæmorrhagy, though no other application had been made than that of dry lint and flour *(b)*.

Thus much is certain, that the agaric has already loſt greatly of its repute, both in France, where it was firſt introduced, and in England; and that it does not appear, from its ſenſible qualities, to be poſſeſſed of any truly ſtyptic power, at leaſt in any conſiderable degree.

(a) Warner, *Caſes in ſurgery, &c.*

(b) Neale, *Obſervations on the uſe of agaric, &c.*

Chewed, in ſubſtance, it diſcovers no taſte: boiled in freſh parcels of water, it yielded about one fourteenth its weight of extract, which had only a weak ſweetiſh taſte, mixed with a kind of bitterneſs: treated in the ſame manner with rectified ſpirit, it yielded about one eighth its weight of an extract, which had leſs taſte than the other.

It is probable that this fungus acts no otherwiſe than as a pliable ſoft ſubſtance, adhering to the orifices of the veſſels, till they have contracted ſpontaneouſly. Some other fungi were employed formerly in the ſame intention, and there are late accounts, in the Philoſophical Tranſactions, of two having been uſed with ſucceſs; namely, the *lycoperdon*, or duſty muſhroom; and that found on the caſks and walls of wine-vaults, and thence called *fungus vinoſus*.

AGNUS.

AGNUS CASTUS, Vitex, Pharm. Pariſ. Agnus folio non ſerrato J. B. Vitex Agnus Caſtus Linn. AGNUS-CASTUS, or chaſte-tree: a ſmall tree or ſhrub, with tough branches, digitated narrow leaves, and monopetalous purpliſh flowers ſtanding in ſpikes on the tops of the branches, followed by oblong whitiſh ſeeds. It is a native of the warmer climates, and cultivated in ſome of our gardens.

THE ſeeds of agnus were formerly celebrated as antaphrodiſiacs; but experience does not diſcover in them any degree of ſuch virtue, and ſome have aſcribed to them an oppoſite one. From their ſenſible qualities, their virtues, of whatever kind, do not appear to be very conſiderable.

ſiderable. The ſeeds in ſubſtance, as met with in the ſhops, have little taſte, and ſcarcely any ſmell, though deſcribed by authors as very hot and biting: extracts made from them, by water or ſpirit, are weakly bitteriſh and ſomewhat pungent. They ſeem to abound chiefly with a groſs inſipid oil, of the expreſſible kind; which is in part taken up by rectified ſpirit, and ſeparates and falls to the bottom during the inſpiſſation of the tincture: the oily matter is of a deep ſaffron colour, the inſpiſſated extract ſomewhat paler.

AGRIMONIA.

AGRIMONIA Eupatoria Linn. Eupatorium verum ſive agrimoni C. B. AGRIMONY: a hairy plant; with winged leaves, compoſed of oblong indented ſegments, with ſmaller portions between, ſet on middle ribs which ſtand alternately on the ſtalk: on the the top grows a long ſpike of pentapetalous yellow flowers, followed by little burs, containing, each, one or two ſeeds. It is perennial, grows wild in hedges and about the ſides of fields, and flowers in May.

THE leaves of agrimony have a ſlightly bitteriſh roughiſh taſte, accompanied with an agreeable, though very weak, aromatic flavour: the flowers are in ſmell ſtronger and more agreeable than the leaves, and in taſte ſomewhat weaker. They readily give out their virtues both to water and to rectified ſpirit: the leaves impart to the former a greeniſh yellow, to the latter a deep green colour: the flowers yield their own deep yellow tincture to both menſtrua. In diſtillation with water, there ariſes a very ſmall portion of a yellowiſh eſſential oil, which ſmells ſtrongly and agreeably of the herb.

Agrimony is one of the milder corroborants; and in this intention is ſometimes employed, eſpecially among the common people, againſt habitual diarrhœas, and cachectic, and other indiſpoſitions from a lax ſtate of the ſolids: infuſions of the leaves, which are not ungrateful, may be drank as tea. It is ſometimes joined with other ingredients in diet drinks for purifying the blood; and in pectoral apozems.

THIS plant is often raiſed in gardens; and does not ſeem to receive, from culture, any material change in its quality. Another ſpecies or variety, of foreign original, common alſo in our gardens, and differing little in appearance from our indigenous agrimony, promiſes to be ſuperiour to it in virtue; as its taſte is more aromatic, and its ſmell much ſtronger and very agreeable: Caſpar Bauhine calls it *eupatorium odoratum*, Fabius Columna *eupatorium dioſcoridis, odoratum & aromaticum.*

ALCHIMILLA.

ALCHIMILLA vulgaris Linn. Pes leonis ſive alchimilla J. B. LADIES MANTLE: an herb, with undivided plaited multangular leaves, and imperfect flowers ſtanding in form of umbels on the tops of the ſtalks: the cup conſiſts of four larger and four ſmaller leaves placed alternately. It is perennial, grows wild in dry fields and meadows, and flowers from May to Auguſt.

The leaves of alchimilla are weakly aſtringent, without any remarkable ſmell or flavour. They have been recommended, internally, againſt alvine and uterine fluxes, in which they may doubtleſs be of ſome ſervice; and externally, againſt certain relaxations, which can yield but little to aſtringents of ſo mild a kind. Their ſtyptic matter is extracted both by water and by ſpirit, and when ſeparated from the fluids by inſpiſſation, is ſtill found to be weak: the ſpirituous extract is the ſtrongeſt, this menſtruum diſſolving leſs, than water does, of the inſipid mucilaginous ſubſtance of the leaf. The roots of the plant are more aſtringent than the leaves, and the extracts made from them, are proportionably ſtronger. They both ſtrike a black colour with ſolutions of chalybeate vitriol.

ALKEKENGI.

ALKEKENGI, Halicacabum. Solanum veſicarium C. B. Phyſalis Alkekengi Linn. Winter-cherry: a low, ſomewhat hairy plant; with unbranched ſtalks; large heart-ſhaped acuminated leaves, ſtanding in pairs at the joints; and whitiſh bell-ſhaped flowers, riſing in the boſoms of the leaves, divided about the edges into five ſegments: the flower-cup changes into a pentagonal capſule or bladder, which, burſting, diſcovers in its bottom a red fruit like a cherry, containing numerous ſmall ſeeds with a juicy pulp.—It grows wild in ſome parts of Europe, and ſpreads ſo much in our gardens as not to be eaſily extirpated. The fruit ripens about the beginning of October, and ſometimes continues to near the end of December; after which, the plant dies to the ground.

WINTER-CHERRIES have an acidulous not unpleaſant taſte, mixed with, or followed by, a ſlight bitterneſs: the covering, in which they are incloſed, has a ſtrong pungent bitterneſs, with which it is apt to impregnate the cherries, unleſs ſome care is taken in gathering them. As medical writers in general ſpeak of this fruit as being very bitter, we may preſume that it has been often uſed with this extraneous bitter impregnation.

Theſe cherries are accounted powerful diuretics, operating without heat or irritation, and which may therefore be ventured on in inflammatory diſtempers: five or ſix of the cherries in ſubſtance, or an ounce of the expreſſed juice, are directed for a doſe. They are ſaid to be, in ſome places, eaten, among the common people, by handfuls (a), and with good ſucceſs, againſt ſuppreſſions of urine, and for promoting the expulſion of mucus and gravel. Mr. Ray tells us of a gouty perſon, who was cured, and kept free from returns of his diſorder, by taking eight of theſe cherries at each change of the moon; and that the operation of the medicine procured a diſcharge of extremely fetid matter by urine (b). The cherries may be dried ſo as to be pulverable, or the depurated juice inſpiſſated with a gentle heat to the conſiſtence of a rob or extract, and in this ſtate preſerved for uſe.

(a) Caſp. Hoffman, *de medicament. officinal. lib.* ii. *cap.* 217.

(b) Ray, *hiſt. plant.* 681.

ALLIARIA.

ALLIARIA C. B. Eryſimum alliaria Linn. SAUCE-ALONE, or jack-by-the-hedge: a plant, with roundiſh, or heart-ſhaped, ſlightly indented leaves; and firm upright ſtalks; on the tops of which, and in the boſoms of the leaves, come forth cluſters of tetrapetalous white flowers; followed by oblong bivalvous pods, full of black ſeeds. It is biennial, grows wild in hedges, and flowers in May.

THE leaves of alliaria have a moderate acrimony, and a ſtrong flavour greatly reſembling that of garlic or onions: they give the ſame kind of durable taint to the breath, as thoſe roots; and have been uſed for the ſame culinary purpoſes. They loſe greateſt part of their ſmell, and a little of their taſte, on being moderately dried: after keeping for ſome months, the taſte, as well as ſmell, ſeemed to be wholly loſt: the leaves, on being chewed, proving merely mucilaginous. The juice, expreſſed from the freſh leaves, is ſtrongly impregnated with their active matter, but loſes greateſt part of it on being inſpiſſated to an extract with the gentleſt warmth: in its liquid ſtate, duly ſecured from the air, it may be kept uninjured for many months. On diſtilling the freſh herb with water, there ariſes a ſmall portion of eſſential oil, which taſtes and ſmells exceeding ſtrongly. Great part of the virtue of the plant ariſes alſo in evaporation with rectified ſpirit; an extract, made by this menſtruum, having little taſte or ſmell, though the tincture, before the inſpiſſation, has a ſtrong flavour of the alliaria. This herb appears, therefore, to differ from garlic, and agree with onions, in the volatility of its active principles.

Alliaria, taken internally in any conſiderable quantity, frequently excites a ſweat, which is impregnated with its ſmell (a): it ſtands recommended as a very powerful diaphoretic, and diuretic, as a deobſtruent in aſthmatic diſorders, and externally as an antiſeptic, in gangrenes and putrid ulcers. Boerhaave informs us, that he cured a gangrene of the leg, ariſing from a neglected fracture and contuſion, by applying the leaves of alliaria bruiſed with wine (b).

ALLIUM.

ALLIUM Pharm. Lond. & Edinb. Allium ſativum C. B. & Linn. Garlic: a plant with long narrow graſs-like leaves; among which ariſes a ſingle ſtraight hollow ſtalk; bearing on the top a cluſter of ſmall white hexapetalous flowers; each of which is followed by a fruit about the ſize of a pea, full of dark coloured roundiſh ſeeds. The roots are of the bulbous kind, of an irregularly roundiſh ſhape, with ſeveral fibres at the bottom: each root is compoſed of a number of ſmaller bulbs, called *cloves* of garlic, incloſed in one common membranous coat.—It is ſaid to grow wild in Sicily: with us, it is raiſed in gardens, from ſeed, for culinary as well as medicinal uſes.

The roots of garlic have a penetrating highly acrimonious taſte, and a ſtrong, offenſive diffuſive ſmell. Applied to the ſkin, they inflame and often veſicate the part. Taken internally, they ſeem to extend their action, in a ſhort time, through the whole habit; impregnating, with their ſtrong ſcent, not only the breath, but the urine, the milk of the breaſt or of the udder, the ſerum which oozes from ſores or iſſues *(a)*, and the fluid which perſpires through the ſkin. The other parts of the plant poſſeſs the ſame qualities, in a lower degree. In Spain, garlic is ſaid to be equally mild with onion, and is uſed as food.

(a) Boerhaave, *hiſt. plant. Lugd. Bat.* 437.

(b) Ibid.

Garlic root has been celebrated, by ſome practical writers, in a variety of diſorders; and condemned by others, not only as an offenſive, but as a noxious drug. It is certain, that there are many caſes, in which it is extremely prejudicial; but that there are many alſo in which it is of great utility. To warm and ſtimulate the ſolids, attenuate thick humours, and reſiſt putrefaction, ſeem to be its primary virtues. Hence, in hot bilious conſtitutions, where there is already a degree of irritation, where the juices are thin and acrimonious, or the viſcera or inteſtines unſound, it is apparently improper, and ſeldom fails to produce head-achs, flatulencies, thirſt, febrile heats, and inflammatory ſymptoms in various ſhapes. In cold ſluggiſh phlegmatic habits, on the other hand, it proves a ſalutary and powerful corroborant, expectorant, diuretic, and, if the patient is kept warm, ſudorific. In loſs of appetite, and humoral aſthmas, where the ſtomach or lungs are oppreſſed by viſcid phlegm, this medicine has generally good effects. It has likewiſe been found ſerviceable, as a warm ſtrengthener, in

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(a) Bennet, [*Chriſt. Benedictus*] *tabidorum theatr. exerc.* 29. *p.* 81.

the beginning of dropſies, and for preventing a new accumulation of water after evacuation: Sydenham (a) relates, that he has known the dropſy cured by the uſe of garlic alone.

Some have held it in great eſteem as an antidote againſt the contagion of peſtilential and other putrid diſorders; whence it received the name of *theriaca ruſticorum.* It is uſed alſo among the common people, ſlightly boiled in milk, as an anthelmintic; and Hoffman looks upon it as one of the capital medicines of that claſs.

Garlic is ſometimes employed externally, in unguents and lotions, as an antiſeptic and diſcutient; and is frequently made an ingredient in the ſtimulating epithems, applied to the ſoles of the feet, in the low ſtage of acute diſtempers, for raiſing the pulſe and relieving the head. Sydenham aſſures us (b), that none of the ſtimulants operate, in this intention, more powerfully than garlic: he obſerves, that it ſometimes occaſions intolerable pain, which may be relieved by a cataplaſm of bread and milk. Dr. Cullen remarks that it is not ſo apt to ulcerate the part as muſtard; more capable of being abſorbed, and extending its action to remote parts.

THIS root loſes in drying almoſt nine parts in fifteen of its weight, without ſuffering any conſiderable loſs of its taſte or ſmell: hence ſix grains, dry, may be looked upon as equivalent to fifteen grains of the freſh root.

The freſh root yields, upon expreſſion, about one fourth its quantity of a very viſcid glutinous juice; which ſmells ſtrongly of the garlic, and

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(a) *Tractat. de hydrope.* (b) *Epiſt. de variolis confluent.*

in good meaſure retains its ſcent after being inſpiſſated, by a gentle warmth, to the conſiſtence of an extract.

Both the freſh and the dry root give out their virtue to water by warm infuſion. A quart of water, poured boiling hot upon a pound of the freſh root cut in ſlices, and ſuffered to ſtand upon it in a cloſe veſſel for twelve hours, becomes ſtrongly impregnated with the ſmell and taſte of the garlic.

Vinegar and honey excellently coincide with and improve this medicine, as a detergent and deobſtruent, in diſorders of the breaſt.

The garlic itſelf is never to be boiled, either with vinegar or with watery liquors; the virtues of this root reſiding in an eſſential oil, which exhales along with the ſteam of boiling water, leaving, if the decoction be inſpiſſated, an inert mucilaginous extract, which has very little of the taſte and nothing of the ſmell of the garlic. The oil, obtainable by diſtillation, is of a pale yellowiſh colour and a thick ropy conſiſtence, in ſmall quantity but of great activity, of an extremely ſtrong ſmell and a fiery taſte: great part of the oil remains diſſolved in the diſtilled water, which is very ſtrongly impregnated with the taſte and ſcent of the garlic.

Rectified ſpirit of wine, digeſted on dry garlic root, extracts its virtues more readily and more perfectly than either water or vinegar. With this menſtruum, the active matter of the garlic does not eaſily exhale: the ſpirit diſtilled off from the filtered tincture has very little taſte or ſmell of the root, nearly all its virtue remaining in the inſpiſſated extract.

ALNUS.

ALNUS Pharm. Pariſ. Alnus rotundifolia glutinoſa viridis C. B. Betula Alnus Linn. ALDER: a tall coniferous tree, common in watery places; with very brittle branches; roundiſh, crenated, clammy leaves; a rugged blackiſh brown bark; and reddiſh wood.

ALL the parts of the alder tree are more or leſs aſtringent and bitter. The bark is a ſtrong ſtyptic, and might, doubtleſs, be applied to the ſame purpoſes as the other ſubſtances of that claſs, though at preſent rarely or never made uſe of medicinally, unleſs ſometimes among the common people in fomentations and epithems.

Tournefort reports (*a*), that in the Alpine countries, it is cuſtomary to procure a plentiful ſweat, by covering the patient all over with bags of alder leaves heated; and that by repetitions of this operation, rheumatiſms, and ſciaticas, are commonly cured. In this way of application, it is apparently the heat and moiſture, and not any peculiar quality of the alder leaves, that is the medicine. * Dr. Murray, of Gottingen, recommends from his own experience, the leaves of alder chopt and heated over the fire, as the beſt remedy with which he is acquainted for diſperſing milk in the breaſts (*b*).

ALOE.

ALOES: a bitter, gummy-reſinous, inſpiſſated juice; prepared from the leaves of certain thick fleſhy-leaved plants of the ſame name. Three ſorts of it are diſtinguiſhed in the ſhops.

(*a*) *Hiſt. des plantes aux environs de Paris.*

(*b*) *Mater. Medic.*

1. Aloe Socotorina *Pharm. Lond.* *Aloë ſuccotrina Ph. Edinb.* Socotorine aloes; brought from the iſland Socotora in the Indian ocean, wrapt in ſkins; obtained from the *Aloe ſocotrina anguſtifolia ſpinoſa flore purpureo Breyn:* a variety of the *Aloe perfoliata Linn.* This ſort of aloes is of a bright ſurface, and in ſome degree pellucid; in the lump, of a yellowiſh red colour with a purpliſh caſt; when reduced into powder, of a golden colour. It is hard and friable in the winter, ſomewhat pliable in the ſummer, and ſoftens betwixt the fingers. Its bitter taſte is accompanied with an aromatic flavour, but not ſufficient to prevent its being diſagreeable: the ſmell is not very unpleaſant, and ſomewhat reſembles that of myrrh.

2. Aloe barbadensis *Ph. Lond.* Aloe hepatica *Pharm. Edinb.* Hepatic, Barbadoes, or common aloes; uſually brought from Barbadoes, the beſt ſort in large gourd ſhells, an inferiour kind in pots, and a ſtill worſe in caſks; extracted from the *Aloe C. B.* *Aloe dioſcoridis & aliorum. Sloan jamaic.* This is darker coloured than the foregoing, and not ſo clear or bright. It is generally drier and more compact; though ſometimes, eſpecially the caſk ſort, quite ſoft and clammy. Its ſmell is much ſtronger and more diſagreeable: the taſte intenſely bitter and nauſeous, with little or nothing of the aromatic flavour of the ſocotorine.

3. Aloe caballina. Caballine or horſe aloes; prepared, probably, from the *aloe guineenſis caballina vulgari ſimilis ſed tota maculata Commel. prælud.* not, as is generally ſuppoſed, the feces of the hepatic; the difference not being in purity, but in quality. It is eaſily

diſtinguiſhed from both the foregoing by its ſtrong rank ſmell: in other reſpects it agrees pretty much with the hepatic, and is, not unfrequently, ſold in its place. Sometimes it is prepared ſo pure and bright as ſcarce to be diſtinguiſhable by the eye even from the ſocotorine, but its offenſive ſmell readily betrays it; and if this alſo ſhould be diſſipated by art, its wanting the aromatic flavour of the finer aloes will be a ſufficient criterion.

Aloes is a ſtimulating cathartic bitter. Taken in ſufficient doſes to purge effectually, as half a dram or two ſcruples, it occaſions commonly a great irritation about the anus, and ſometimes a diſcharge of blood. In ſmaller doſes, as ten or twelve grains, repeated once or twice a day, it not only unloads the firſt paſſages, but attenuates and diſſolves viſcid humours in the remoter parts, warms the habit, quickens the circulation, and promotes the menſtrual and hæmorrhoidal fluxes: its continued uſe renders the blood ſenſibly more fluid, as appears on veneſection. For a time, in theſe ſmall doſes, it does not act by ſtool; but at length it produces a gentle looſeneſs, of longer continuance than that occaſioned by moſt other purgatives: hence its utility in habitual coſtiveneſs. This ſtimulating cathartic is particularly adapted to perſons of a phlegmatic temperament and ſedentary life, to cachectic indiſpoſitions, and oppreſſions of the ſtomach by viſcid crudities contracted from irregularity: in dry bilious habits, it is often injurious, immoderately heating the blood, or inflaming the bowels.

This bitter juice is accounted deſtructive to worms, or to the matter which favours their production, whether taken internally, or applied in plaſters to the umbilical region. It is powerfully antiſeptic; and commonly made an ingredient in tinctures and balſams for cleanſing and healing wounds or putrid ſores.

Aloes conſiſts of a reſinous matter, and a large proportion of a ſubſtance called gum. By boiling in water, in the proportion for inſtance of four ounces to a quart, it nearly all diſſolves, except the impurities, into a dark coloured liquor; which on ſtanding in the cold for a night, depoſites the reſin to the bottom, the gummy part continuing diſſolved. From this ſolution (poured off from the precipitated reſin, and, if any feculencies appear in it, paſſed through a ſtrainer) the gum may be recovered in a ſolid form by evaporation. The coarſer ſorts of aloes may be purified from their feculencies, without any ſeparation of the gummy and reſinous parts, by ſtraining the ſolution whilſt hot, and ſetting it directly to evaporate, without ſuffering it to ſettle.

The hepatic aloes is found to contain more reſin and leſs gum than the ſocotorine, and this than the caballine. Twelve ounces of caballine aloes yielded two of reſin, the ſame quantity of ſocotorine three, of hepatic almoſt four: of gummy extract, the caballine yielded nine ounces, the ſocotorine ſomewhat leſs than nine, the hepatic eight. The watery ſolution of the gummy part of the ſocotorine, after the ſeparation of the reſin, appeared of a bright brown colour, with a caſt of red; that of the caballine, deep reddiſh brown; of the hepatic, browniſh yellow, without any tendency to redneſs.

The reſins of all the ſorts, purified by ſolution in ſpirit of wine, (for in their ſettling from the watery decoction of the aloes, the impurities of the juice ſubſide along with them) have little ſmell; that obtained from the ſocotorine has ſcarcely any perceptible taſte, that of the hepatic a ſlight bitteriſh reliſh, and that of the caballine a little more of the aloetic flavour. The gummy extracts alſo are leſs diſagreeable than the crude aloes: the extract of the ſocotorine has very little ſmell, and is in taſte ſcarcely unpleaſant: that of the hepatic is in ſmell ſomewhat ſtronger, but ſeems to be in taſte rather leſs ungrateful than the extract of the ſocotorine: the gum of the caballine retains a conſiderable ſhare of the peculiar rank ſmell of this kind of aloes, but its taſte is not much more unpleaſant than that of the extracts made from the other two.

The purgative virtue of aloes, contrary to that of moſt of the other cathartic vegetables, reſides chiefly in the gummy part; the reſin, though taken in conſiderable doſes, whether divided by teſtaceous powders, or diſſolved in ſpirit of wine, having little or no cathartic power. Socotorine aloes, which contains more gum than the hepatic; purges more, and with greater irritation: the former therefore is to be preferred where a ſtimulus is required, as for promoting or exciting the menſtrual flux; whilſt the latter is better fitted for a common purge. The vulnerary and balſamic virtues, on the other hand, reſide principally in the reſin; and hence the hepatic, which is more reſinous than the ſocotorine, is found to be more ſerviceable in external applications. The caballine aloes, on account of its offenſive ſmell, is very rarely made uſe of, at leaſt under its own name, either internally or externally.

The purgative aloetic gum diſſolves, not only in watery, but likewiſe in ſpirituous menſtrua;

ſtrua; and even more readily in proof ſpirit and in rectified ſpirit, than in water or wine. When powdered aloes is macerated, or digeſted in a gentle warmth, with water, with wine, or with vinous ſpirits largely diluted, the powder ſoftens, and becomes tenacious, and the ſolution goes on exceeding ſlowly: hence in making tinctures or ſolutions of aloes in theſe kinds of menſtrua, it is of advantage to mix with the powder ſome clean dry ſand, which by keeping it divided, promotes the diſſolution. With rectified and proof ſpirits, the aloes does not cohere, but continues powdery till diſſolved.

Aloes is ſometimes taken by itſelf, ſometimes mixed with ſaponaceous medicines, warmed with aromatics, acuated with pungent materials, combined with the deobſtruent gums, *&c.* Many of theſe kinds of compoſitions have been received as officinals: a pill, for example, compoſed of equal parts of aloes and extract of gentian, or half the proportion of the latter [*]: a powder, of eight parts of aloes, with two of canella alba [†]: a tincture, made by digeſting five ounces of this powder in three [‡] pints of mountain wine and one of proof ſpirit; or one ounce of aloes, with one dram each of Cardamom ſeeds and ginger, in two pounds of the ſame wine [‖]: another tincture of half an ounce of aloes and an ounce and a half of extract of liquorice in half a pint of proof ſpirit with as much water [§]: pills of four parts of aloes, two of myrrh, and two [¶] or one [**] of ſaffron, made up with ſyrup of ſaffron or of orange peel: vinous and ſpirituous tinctures of the aloes with different proportions of the myrrh and ſaffron [⸸], *&c.* Among different aromatic materials made trial of, cloves ſeemed the beſt adapted for alleviating the offenſiveneſs of the aloes: the committee

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[*] Pil. aloeticæ *Ph. Ed.* Id. *Ph. Lond.*

[†] Pulvis Aloeticus *Ph. Lond.*

[‡] Vinum Aloes *Ph. Lond.*

[‖] Tinct. Sacr. *Ph. Ed.*

[§] Tinctura Aloes *Ph. Lond.*

[¶] Pil. ex Aloecum Myrrha *Ph. Lond.*

[**] Pil. communes vulgo Rufi *Ph. Ed.*

[⸸] Elixiria proprietatis varia

tee appointed by the London college for reforming their pharmacopœia, made choice of canella alba, on account of its not rendering the medicine ſo hot as the neceſſary quantity of the clove itſelf would do, and yet having ſo much of the clove flavour, as to cover the aloes in a ſufficient degree: ſome commend the *caſia caryophyllata*, or clove bark, as having more of the clove flavour, than canella alba, and yet not being very hot.—Where volatile ſpirits are to be joined, a ſolution of the aloes in dulcified ſpirit of ſal ammoniac, or in ſpirit of ſal ammoniac made with quicklime, are very elegant preparations, and require little aſſiſtance from aromatics to render them ſupportable to the palate; the offenſiveneſs of the aloes being greatly abated by the ſpirit, and the pungency of the ſpirit ſheathed by the aloes: the ſpirit of ſal ammoniac made with fixt alkaline ſalt does not diſſolve near ſo much of the aloes as the two above-mentioned.

ALSINE.

ALSINE media C. B. & Linn. CHICKWEED: a ſmall, creeping, juicy herb; annual, common at all times of the year in ſhady cultivated grounds.

THIS herb was formerly employed in cataplaſms againſt inflammations; and its expreſſed juice, or decoction, given alſo internally, as an aperient, antiſcorbutic, antiphlogiſtic, and as a reſtorative, that is, perhaps, for abating hectic heats, in atrophies and conſumptions. Nor do the virtues aſcribed to it appear to be wholly without foundation: experiment diſcovers, that it is not deſtitute of active matter, though this matter is ſo far divided and diluted in the herb, as ſcarcely to manifeſt itſelf till ſeparated from the groſſer parts.

The freſh leaves have an herbaceous ſomewhat ſaline taſte, without any remarkable ſmell: in diſtillation, with water or with ſpirit, they give over nothing. On expreſſion they yield a large quantity of green coloured turbid juice; which difficultly depoſites its feces upon ſtanding, but immediately parts with them on being heated to ebullition, and being now paſſed through a ſtrainer, looks clear and reddiſh. The depurated juice, inſpiſſated to the conſiſtence of an extract, diſcovers to the taſte a cool penetrating ſaline pungency, which quickly goes off, leaving a ſlight auſterity in the mouth.

ALTHÆA.

ALTHÆA Pharm. Lond. & Edinb. Althæa dioſcoridis & plinii C. B. Althæa officin. Linn. MARSHMALLOW: a ſoft hoary plant: with oblong undivided leaves; and pale fleſh-coloured monopetalous flowers, cut deeply into five ſections, ſet in a double cup, the outermoſt of which is divided into nine parts, the inner into five: the fruit conſiſts of a number of capſules, ſet in form of a flat diſk, containing each a ſingle ſeed: the roots are long and ſlender, with ſeveral fibres, of a pale yellowiſh colour on the outſide, and white within.—It grows wild in marſhes and other moiſt places, though frequently cultivated in gardens. It is perennial, and flowers from June to near the end of ſummer.

All the parts of althæa abound with a glutinous juice, of ſcarcely any ſmell or particular taſte. The dry roots, boiled in water, give out near half their weight of gummy matter; which, on evaporating the aqueous fluid, forms a flavourleſs, yellowiſh mucilage. The leaves afford ſcarcely one fourth their weight, and the flowers and ſeeds ſtill leſs; though the two latter have been looked upon by ſome as the moſt mucilaginous, and accordingly preſcribed in leſs quantity (a) than the other parts of the plant.

Of all the mucilaginous vegetables, marſhmallow root is, among us, of the moſt general uſe; for obtunding and incraſſating acrimonious thin fluids, in tickling coughs from defluxions on the fauces and lungs, in hoarſeneſs, eroſions of the ſtomach and inteſtines, difficulty and heat of urine; and for lubricating and relaxing the paſſages in nephritic and calculous complaints.

The root is ſometimes given in powder, from a ſcruple to a dram or two, either by itſelf, or in conjunction with other materials of ſimilar intention, as gum tragacanth, ſtarch, *&c.* It is rather too bulky, however, for this form; and may, in moſt caſes, be taken to better advantage in that of an infuſion or decoction, ſweetened with a little liquorice: an ounce of the dry root is ſufficient for a quart or three pints of water, a larger proportion rendering the liquor diſagreeably ſlimy.—A ſyrup, made by boiling a pound of the freſh roots in a gallon of water till half the liquor is waſted, preſſing out the decoction, and after ſettling for a night, boiling it down with four pounds of fine ſugar till the weight of the whole is ſix pounds, is kept in the ſhops, and employed occaſionally in ſome diſorders of the breaſt, and for ſweetening emollient decoctions in nephritic caſes.

(a) Geoffroy, *mat. med.* iii. 73.

ALUMEN.

ALUMEN Pharm. Lond. & Edinb. Alum: a ſemitranſparent, auſtere, ſtyptic ſalt; compoſed of the vitriolic acid, and a certain earth; which earth is either the pure argillaceous earth, or elſe is contained, in great quantity, in all the argillaceous foſſils that have been examined.

The greateſt quantities of this ſalt are artificially produced from different kinds of minerals, whoſe nature and compoſition are little known. A bluiſh ſlate found in the hills near Scarborough and in ſome other parts of England *(a)*, and a whitiſh ſtone at Tolfa near Rome *(b)*, become richly aluminous, by calcination; and a bituminous earth near Hall in Saxony, by expoſure to the air: this laſt, if laid in large heaps, grows hot, like the pyritæ, and at length burſts into flame *(c)*. There are, in Sweden, ferrugineous pyritæ, from which alum, as well as vitriol, obtained *(d)*; and moſt, if not all, of the aluminous ſlates, participate alſo largely of vitriol: it is probable that in all the matrices of this ſalt, the part, which becomes alum, differs from that which in the pyritæ becomes vitriol, only in the former having an argillaceous earth in the place of the metallic calx of the latter.

(a) Colepreſs, *philoſoph. tranſact. No.* 142.

(b) Mercatus, *metallothec. armarium* iii. *cap.* 2.

(c) Hoffman, *obſerv. phyſico-chym. lib.* iii. *obſ.* 8.

(d) Leopold, *relatio de itinere ſuo ſuecico, p. m.* 84, *& ſeqq.*

The alum, produced in the mineral, ſometimes ſhoots upon the ſurface into fibrous efflореſcences, called by the antients, from their form, *alumen plumoſum*; though later times have applied that name to a ſubſtance of a very different kind. The ſalt is extracted from the earthy matter by elixation with water; and afterwards brought to a cryſtalline form, by evaporating the ſolution to a proper pitch, and then ſetting it to ſhoot, with the addition of a little alkaline lye or putrefied urine, without which the cryſtallization does not ſucceed. Even when the pure earth, ſeparated from alum, is rediſſolved in the vitriolic acid, the ſolution does not eaſily ſhoot into perfect cryſtals, till ſome alkaline ſalt, fixt or volatile, is added; this acid ſeeming not to fully ſatiate itſelf with the aluminous earth, and the unſatiated part preventing the cryſtallization of the reſt (a): The alkaline liquor is to be dropt in by degrees, till a white precipitation begins to appear; a mark, that all the redundant acid is now ſaturated, and that a further addition would decompoſe more and more, proportionably to its quantity of the alum itſelf.

The Engliſh alum is colourleſs, and commonly in large maſſes; into which it is formed, by melting the cryſtals over the fire, with the addition of a little water, and pouring the fluid matter into wooden tubs, in which it concretes and aſſumes the figure of the veſſel: the Roman is of a reddiſh hue, and in ſmaller cryſtallized maſſes. The name *roch* or *rock* alum is applied among us to the Engliſh, on account of the hardneſs and ſize of its maſſes; and by foreign writers to the Roman, on account of the hard ſtone or rock from which it is extracted. The Roman is thought to be ſomewhat leſs ſtyptic and leſs nauſeous than the Engliſh, and is ſuppoſed by ſome to have for its baſis a ſomewhat different kind of earth.

(a) Marggraf, *mem. de l'acad. des ſcienc. de Berlin, ann.* 1754.

Aluminis purificatio *Ph. Lond.*

The purification of alum for medical purpoſes is now directed by the London college, which is effected by boiling a pound of it in a pint of water, with the addition of a dram of chalk, and then chryſtallizing the ſtrained liquor.

ALUM is a ſtrong aſtringent; one of the ſtrongeſt of the ſubſtances of that claſs. It is in common uſe for external purpoſes; againſt relaxations of the uvula; in gargariſms for ſpongy ſcorbutic gums; in epithems and collyria for inflammations and defluxions of the eyes, *&c.* In this laſt intention, we have ſcarcely any application more effectual than the coagulum recommended by Riverius, made by agitating the white of an egg with a lump of alum, till it acquires the conſiſtence of an unguent, which is to be ſpread on tow, and applied warm to the eyes at bed-time; proper evacuations, if the inflammation is conſiderable, being premiſed.

Coagulum aluminis *Ph. Lond.*

Internally, it is given in ſmall doſes, of half a grain or leſs, as a mild corroborant; and in larger ones, as ten, fifteen, and ſometimes twenty grains, for reſtraining immoderate hæmorrhages. Theſe large doſes are never adviſable, but in profuſe and threatening evacuations; as they are apt to nauſeate the ſtomach, occaſion gripes, and leave obſtinate conſtipations of the bowels. The firſt doſe or two ſometimes purge a little.

It has been cuſtomary to mix alum, for internal uſe, with an equal* or with half its quantity of dragons blood; which ſerves to diſguiſe the alum, and render it, eſpecially when the mixture is made by melting them together*, more ſlow of ſolution in the ſtomach, in conſequence of which it ſits eaſier and may be given with leſs inconvenience in conſiderable doſes: this is, perhaps, the only advantage of the addition of dragons blood to alum. The Edinburgh college, in their laſt edition, have in place of dragons blood ſubſtituted the gum kino, in the proportion of three drams to one ounce and a half of alum; an alteration which much improves the medicine; as this aſtringent gum is perfectly ſoluble in watery menſtrua. Dr. Thompſon, in the medical eſſays publiſhed by a ſociety at Edinburgh, gives an account of the good effects of the former compound in uterine hæmorrhages; and aſſures us, that he had never found any medicine ſo much to be depended on, whether for correcting the too frequent return of the menſes or their too great abundance, for ſtopping the floodings which women with child are ſubject to, or moderating the flow of the lochia. In violent bleedings, he gave half a dram, of a mixture of equal parts of the two, every half hour; and ſeldom failed to ſuppreſs the diſcharge before three or four drams had been taken. The ſucceſs of this medicine in theſe diſorders induced him to preſcribe it in the fluor albus, and in this alſo it had excellent effects.

* Pulvis helvetii.

Pulvis ſtypticus *Ph. Ed.*

Alum diſſolves in twelve times its weight or leſs of water: on ſetting the ſolution to exhale ſlowly in a moderately warm air, the ſalt concretes into cryſtals of eight or more triangular ſides. The ſolution changes the colour of the blue flowers of plants, or their juices, to a red or purple, as acids do; and like them alſo, it coagulates milk and the ſerous humours of animals. The whey obtained by boiling a pint of cow's milk with two drams of powdered alum, is ſometimes given in uterine hæmorrhages, and recommended alſo in the diabetes *(a)*, in doſes of a quarter of a pint, three or four times a day. This liquor, like other aluminous ſolutions, is not a little ungrateful: nor does this method of obtaining the ſolution admit of ſo much preciſion, as could be wiſhed for in a medicine of ſuch efficacy in regard to the doſe: a conſiderable part of the alum being retained in the curd, which taſtes rather more ſtrongly aluminous than the whey. The whey may be made more elegant by a proper addition of ſugar, and of dried red roſe buds.

Alumen uſtum *Ph. Lond.*

This ſalt, expoſed to the fire, eaſily liquefies, bubbles up in bliſters, emits watery vapours amounting to about one ſixth of its weight, and then turns to a light ſpongy unfuſible maſs, which ſeems on taſting to be almoſt inſipid, but gradually diſſolving in the mouth, diſcovers at length the ſame taſte as the alum at firſt. This dried, or burnt alum, as it is called, is ſometimes employed for drying foul ulcers, and conſuming proud fleſh, which it does with great mildneſs, but it is ſaid to have an inconvenience of leaving a hardneſs upon the part.

The burnt alum, urged with a ſtrong fire, gives out an acid ſpirit exactly ſimilar to that obtained by the ſame means from vitriol; the matter which remains, if the fire has been ſufficiently intenſe and long continued, is the pure earth of the alum, white, light, and inſipid.

(a) Mead, *monita & præcepta med. p.* 165.

ſipid. If any of the alum ſtill retains its acid, which a conſiderable part commonly does though a pretty ſtrong fire had been continued for ſome days, this part may be extracted, by boiling in water, from the pure indiſſoluble earth.

The earth of alum may be ſeparated alſo by diſſolving the alum in water, and adding a ſolution of any pure alkaline ſalt, or rather a volatile ſpirit: the liquor grows inſtantly milky on this addition; and on ſtanding for a little time, the aluminous earth falls to the bottom, its acid being abſorbed by the alkali. This earth, freed from the ſaline matter by repeated ablutions with boiling water, diſſolves readily in all acids: ſolutions of it in the nitrous and marine are more ſtyptic, and more nauſeous than alum itſelf: ſolutions of it in vegetable acids, though ſtrongly ſtyptic, are of a milder and leſs ungrateful kind, and promiſe to be, in many caſes, medicines of no ſmall utility.

AMBRAGRISEA.

AMBRAGRISEA. Succinum griſeum. Succinum cinereum. Ambarum. AMBERGRIS: a marine bitumen; very light, ſo as to ſwim both in water and in rectified ſpirit of wine; growing ſoft in a gentle warmth; when warmed, of a fragrant ſmell; ſoluble in boiling ſpirit of wine, from which, if the ſaturated ſolution be ſet in a very cold place, or if a part of the menſtruum be exhaled, a proportionable quantity of the ambergris concretes into a whitiſh unctuous ſubſtance.

The greateſt quantities of ambergris are met with in the Indian ocean: pieces have likewiſe been now and then diſcovered in our own (a) and other northern ſeas. It is found floating on the ſurface of the ſea, or adhering to rocks, or thrown out upon the ſhores, and ſometimes in the ſtomachs of large fiſhes. It is uſually in ſmall maſſes, though there are accounts of very large ones, weighing more than an hundred (b) pounds, opake, rugged, of a greyiſh or aſh colour intermingled with yellowiſh and blackiſh ſpecks or veins, of a looſe texture, friable in a certain degree like wax, breaking rough and uneven, and frequently containing pieces of ſhells and other like matters. It is ſaid to be at firſt ſoft; and when found in this ſtate, to be often adulterated by incorporating different ſubſtances with it; an abuſe which may in good meaſure be diſtinguiſhed by the appearance and texture of the maſs, and with more certainty by its differences from true ambergris in ſolubility, volatility and ſmell.

Ambergris has ſcarcely any particular taſte; and very little ſmell, unleſs heated, or much handled; in which circumſtances, its ſmell is very fragrant, and to moſt people agreeable: ſet on fire, it ſmells like burning amber. It ſoftens betwixt the fingers, melts in a ſmall degree of heat into the appearance of oil, and in a ſtrong one proves almoſt totally volatile. Diſtilled, it yields an aqueous phlegm, a brown coloured acidulous ſpirit, a deeper coloured oil, at length a thick balſam, and ſometimes a ſmall portion of a concrete ſalt. The ſpirit, oil, balſam, and ſalt, are ſimilar to thoſe obtained by the ſame treatment from amber: except that the oil is of a more grateful ſmell.

(a) Charleton, *de animal. append. de foſſilib.*

(b) Chevalier, *deſcription de la piece d'ambregris, &c. peſant* 182 *livres.*

It diſſolves in pure ſpirit of wine, almoſt totally, but ſparingly, and not without the aſſiſtance of a boiling heat. Neumann obſerves, that pure ſpirit may be made to take up about one twelfth its own weight of the ambergris: that ſpirits impregnated with a little eſſential oil, whether by the addition of the oil itſelf, or by diſtillation from oily vegetables, diſſolve it more readily than pure ſpirit: that ſpirits drawn over from fixt alkaline ſalts, extract a deeper tincture, but diſſolve no more, than thoſe which have been rectified without that addition: and that the dulcified acid and alkaline ſpirits have very little effect on it.

Ambergris is, in general, one of the moſt agreeable of the perfumes, and the leaſt apt to diſorder weak conſtitutions, or ſuch as are liable to be offended by ſubſtances of that claſs. Taken internally, from two or three grains to a ſcruple, it is accounted a high cordial, corroborant, and antiſpaſmodic; in which light it is preſcribed by Riverius in hypochondriacal affections. A ſolution of it made in a very highly rectified ſpirit diſtilled from roſes, is recommended by Hoffman, in his phyſicochemical obſervations, as one of the moſt effectual corroborants of the nervous ſyſtem. The orientals are ſaid to look upon it as an aphrodiſiac, and ſuppoſe that the frequent uſe of it contributes to longevity.

Tinct. ſeu eſſentia ambræ *Ph. Pariſ.*

The faculty of Paris directs a tincture to be drawn, by digeſting two ſcruples of ambergris in two ounces of a high rectified ſpirit impregnated with roſes. They have alſo a compound tincture made from the ſame quantity of ambergris, with half as much muſk, ten grains of civet, ſix drops of oil of cinnamon, and four drops of oil of rhodium, digeſted together, in four ounces and a half of a ſpirit impregnated with roſes and orange flowers. This compound tincture is a very high perfume: a few drops of it give a fine ſcent to a large proportion of inodorous matters. It is uſed alſo for heightening the natural odours of other bodies, as aromatic waters, ſpirits, &c. the principal ſecret, for this purpoſe, conſiſts in adding the perfume ſo ſparingly, that while it heightens and improves the ſmell of the ſubſtance it is joined to, it may not betray its own. The moſt advantageous way of preparing theſe kinds of tinctures, in regard to the ambergris, appears to be, to make the ſpirit boil or ſimmer with it firſt, that this ingredient may be completely diſſolved before the more ſoluble ones are added. The vapour, which exhales during the coction, caught and condenſed in proper veſſels, has little flavour of the ambergris: water, diſtilled from it in the ſame manner, proves conſiderably impregnated with its fragrance.

Tinct. ſeu eſſentia regia *Ph. Pariſ.*

AMMI.

AMMI. Bishopsweed: an umbelliferous plant; producing ſmall oblong ſeeds flat on one ſide, convex and furrowed on the other. The upper leaves are finely divided; the lower narrow, indented, ſet in pairs along a middle rib, with an odd one at the end.

1. Ammi verum. *Ammi alterum ſemine apii C. B. Ammi odore origani J. B. Siſon Ammi Linn.* True biſhopſweed; with reddiſh brown ſeeds: a native of Egypt, from whence the ſeeds are ſometimes, though rarely, brought to us.

The ſeeds of the true ammi, when in perfection, are an elegant aromatic carminative; of a warm pungent taſte, and a pleaſant ſmell approaching to that of origanum. Diſtilled with water, they yield a conſiderable quantity of a yellowiſh eſſential oil, containing their whole ſmell and flavour: the remaining decoction, thus diveſted of the aromatic part of the ſeed, is unpleaſantly bitteriſh. Spirit of wine appears alſo to carry off, in its exhalation, the odorous principle of the ammi; an extract made by this menſtruum, though very warm and pungent, and ſeeming to contain the whole taſte of the ſeeds, having little or nothing of their ſpecific ſmell.

2. AMMI *majus C. B. & Linn. Ammi vulgare majus latioribus foliis ſemine minus odorato J. B.* Common biſhopſweed; with larger and paler ſeeds: a native of the ſouthern parts of Europe, and propagating itſelf plentifully in our gardens by the ſeeds which fall in autumn.

The ſeeds of this ſpecies are weaker both in ſmell and taſte than thoſe of the preceding; nor does their flavour at all reſemble that of origanum. The ſeveral preparations of them are proportionably different: the eſſential oil, and the ſpirituous extract, are both leſs grateful and leſs pungent.

AMMONIACUM.

AMMONIACUM Pharm. Lond. Gummi Ammoniacum Pharm. Edinb. GUM AMMONIACUM: a concrete gummy reſinous juice; brought from the Eaſt Indies (*a*); generally

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(*a*) From Egypt, according to Bergius. *Mat. Med. p.* 889.

in large maſſes, compoſed of little lumps or tears, of a milky whiteneſs: the exteral parts of the maſs are commonly yellowiſh or browniſh, and the white tears change to the ſame colour on being expoſed for ſome time to the air. Of the plant, from which it is extracted, we have no further knowledge, than what is learnt from the ſeeds found among the tears; which reſemble thoſe of dill, except that they are larger, and apparently belong to a plant of the umbelliferous kind.

Ammoniacum has a ſtrong ſmell, like that of galbanum, but leſs ungrateful, and a nauſeous ſweetiſh taſte which is followed by a bitter one. Its principal virtue is that of reſolving obſtructions; in which intention, it is frequently made uſe of in aſthmas and difficulty of expectoration, in menſtrual ſuppreſſions, and cachectic indiſpoſitions. In obſtructions of the breaſt, it is accounted the moſt effectual of the aperient gums: in hyſteric caſes, ſome of the others are preferred or joined to it, on account, chiefly, of their more powerful ſmell. It is moſt commodiouſly taken in the form of pills: the doſe is a ſcruple or half a dram, every night or oftener: in larger doſes, as a dram, it generally looſens the belly. Applied externally, it is ſuppoſed to diſcuſs hard indolent tumours.

Ammoniaci purificatio *Ph. Lond.*

It is purified from the ſeeds, ſmall ſtones, *&c.* commonly intermixed among the tears, by ſoftening or diſſolving it in a little boiling water, preſſing it, whilſt hot, through a ſtrainer, and then inſpiſſating it to its former conſiſtence. For internal uſe, the larger and finer tears, unpurified, are preferable to the common ſtrained gum; for unleſs the proceſs be very ſkilfully managed, it loſes in the purification great part of its ſmell, and not a little of its taſte. In the ſhops, a compoſition of much inferiour virtues has been often ſold in the room of ſtrained ammoniacum.

Lac ammoniaci *Ph. Lond.*

Ammoniacum, triturated with water, diſſolves into an emulſion or milky liquor, and in this form acts rather more effectually than in the ſolid one of a pill. Simple penny-royal water is commonly employed for this purpoſe, in ſuch proportion, that four ſpoonfuls (that is, two ounces) of the emulſion contain thirty grains of the ammoniacum. Some have diſſolved it in vinegar of ſquills, and thus obtained an expectorant undoubtedly powerful, though more unpalatable.

If the milky ſolutions are kept ſome time, they depoſite a conſiderable quantity of reſinous matter, and become clear. Inſpiſſated, they yield an extract, of no ſmell, and of only a weak bitteriſh taſte. In diſtillation, no eſſential oil is obtained, and the diſtilled water is but ſlightly impregnated with the flavour of the ammoniacum. In this reſpect, ammoniacum differs remarkably from moſt of the other deobſtruent gums, as aſafetida, galbanum, and ſagapenum, which afford not only a ſtrong diſtilled water, but an actual oil containing the concentrated flavour of the gums.

Rectified ſpirit of wine diſſolves near one half of ammoniacum into a tranſparent reddiſh yellow liquor, which taſtes ſtrongly of the drug: the undiſſolved mucilaginous matter is nearly inſipid. On diſtilling the filtered tincture by a gentle heat, the ſpirit which comes over has hardly any flavour of the ammoniacum: nevertheleſs the remaining extract proves weaker, both in ſmell and taſte, than the juice in ſubſtance.

AMOMUM VERUM.

AMOMUM Pharm. Parſ. Amomum racemoſum C. B. Elettari primum Hort. malabar. True amomum: a cluſter of round fruits, or ſeed veſſels, of an oriental plant. Each fruit is about the ſize of a middling grape; and contains, under a membranous cover, a number of ſmall rough angular ſeeds, of a blackiſh brown colour on the outſide, and whitiſh within: the ſeeds are lodged in three diſtinct cells, and thoſe in each cell joined cloſely together, ſo that the fruit, on being opened, appears to contain three ſeeds. Ten or twelve of theſe capſules ſtand together, without pedicles, upon a woody ſtalk about an inch long: each ſingle capſule is ſurrounded with ſix leaves ſet in form of a ſtar; and the part of the ſtalk, void of fruit, is clothed with leafy ſcales.—Of the other parts of the plant, we have no certain account.

The ſeeds of amomum are a ſtrong and grateful aromatic; of a quick penetrating fragrant ſmell, ſomewhat like that of lavender, but more agreeable; and of a very warm pungent taſte, approaching to that of camphor. They are ſaid to yield in diſtillation a large portion of a ſubtile eſſential oil. The huſks have the ſame kind of flavour, in a lower degree.—Theſe ſeeds have long been a ſtranger to this country. They are directed as an ingredient in the theriaca, in which they have been commonly ſupplied by the ſeeds of the *amomum vulgare*; and the London college, under the name *amomum*, allowed either the *verum* or *vulgare* to be taken indifferently. The college of Edinburgh, while they retained that compoſition, employed cloves as a ſuccedaneum to the *amomum.*

AMOMUM VULGARE.

AMOMUM VULGARE. Siſon quod amomum officinis noſtris C. B. Siſon amomum Linn. Bastard stone parsley: an umbelliferous plant; very much branched; with a firm ſtalk higher than the branches; deep green, winged, ſerrated, parſnep-like leaves; upright umbels; and ſmall, narrow, oblong, ſtriated, dark browniſh ſeeds, flat on one ſide and convex on the other. It is perennial, grows wild under moiſt hedges and by the ſides of ditches, flowers in June and July, and ripens its ſeeds in Auguſt.

The ſeeds of the *amomum vulgare* have a light agreeable ſmell and a mild warm aromatic taſte. They have been ſometimes given as carminatives and diuretics, like the other warm ſeeds, and uſually ſubſtituted in the ſhops for thoſe of the *amomum verum,* from which, however, they are very conſiderably different, in quality as well as in appearance: they are not near ſo hot or pungent, nor is their flavour of the ſame kind.

Theſe ſeeds, infuſed in water, give out very little of their virtue: by boiling, their flavour is ſoon diſſipated, and the liquor becomes diſagreeably bitteriſh: in diſtillation with water, they yield a ſmall portion of a yellowiſh eſſential oil, which taſtes and ſmells ſtrongly and agreeably of the ſeeds.

Rectified ſpirit readily extracts their virtue, and what is pretty ſingular, gains from them a green tincture: the ſpirit, drawn off by diſtillation from the filtered liquor, brings over with it nothing conſiderable of the flavour of the ſeeds: the remaining extract taſtes ſtrongly and ſmells lightly of the amomum, and proves a moderately warm, bitteriſh, not ungrateful aromatic.

AMYGDALA.

ALMOND: an oblong, flattiſh, white kernel, covered with a thin browniſh ſkin: produced by a tree which reſembles the peach in its leaves and flowers, but differs in the fruit; the ſtone being covered with a dry tough matter, of a diſagreeable taſte; and the ſhell, though wrinkled and cavernulous, yet not rugged.

THE almond tree, *Amygdalus communis Linn.* is a native of Africa, and cultivated in great plenty in ſome of the ſouthern parts of Europe. It is now likewiſe naturalized to our own climate, in which it produces fruit not inferiour to that which we receive from abroad. It flowers earlier in the ſpring than moſt other trees, though the fruit does not ripen till autumn.

There are two ſorts of almonds, one of a ſoft ſweetiſh taſte, the other bitter. The eye diſtinguiſhes no difference betwixt the trees which yield the ſweet and the bitter ſort, nor between the kernels themſelves. It is ſaid, that the ſame trees, which in a wild ſtate bore bitter almonds, have, when cultivated, afforded the ſweet kind; and that the ſweet, from want of culture, have degenerated into bitter. The almonds we receive from Barbary, where the tree is indigenous, are bitter; whilſt thoſe of Europe, and other parts where it is cultivated, are in general ſweet.

Great care is requiſite in the choice of theſe kernels, particularly the ſweet ſort; as they are very apt to become rancid in keeping, and to be preyed on by an inſect, which eats out the internal part, leaving the almond to appearance entire.

1. Amygdalæ dulces *Pharm. Lond. & Edinb.* Sweet almonds.

Theſe are, for moſt purpoſes, blanched, or freed from the outer thin acrid ſkin, by ſteeping them in hot water till it is ſoftened ſufficiently to be peeled off.

Sweet almonds, uſed in food, are difficult of digeſtion, and afford very little nouriſhment, unleſs extremely well comminuted. As medicines, they contribute, on account of their ſoft unctuous quality, to blunt acrimonious humours in the firſt paſſages, and thus, ſometimes, give preſent relief in heart-burns and other like complaints.

On expreſſion, they yield a large quantity, near half their own weight, of oil: which, though it has no particular taſte or flavour, is ſomewhat more agreeable to the palate than oil olive, or moſt of the other common expreſſed oils; and hence is employed medicinally, for internal uſes in preference to thoſe oils; for obtunding acrid juices, and ſoftening and relaxing the ſolids; in tickling coughs, hoarſeneſs, coſtiveneſs, nephritic pains, &c.

On boiling almonds in water, a part of their oil ſeparates and is gradually collected on the ſurface: in digeſtion with rectified ſpirit, no ſeparation was obſerved. Very little of the almond is diſſolved either by ſpirit or by water; the decoctions, made in both menſtrua, leaving, on evaporation, only a ſmall portion of a ſomewhat unctuous ſweetiſh matter.

On triturating the almond with water, the oil unites with the aqueous fluid, by the mediation of the mucilaginous and farinaceous matter of the kernel, into an emulſion or milky liquor: a ſmall quantity of powdery matter remaining undiſſolved: almonds that have undergone the ſtrongeſt action of the preſs, retain ſtill ſo much of their oil, as to communicate a milky hue to water.

Theſe liquors participate of the emollient virtues of the oil, and hence are preſcribed in the ſame intentions as the oil itſelf; particularly in heat of urine and ſtranguries, whether ariſing from a ſpontaneous acrimony of the humours, or the operation of cantharides or other irritating medicines. They are given alſo as diluents in acute diſeaſes; and in ſome caſes, for ſupplying, in ſome degree, the place of animal milk, with which they have a great analogy.

Emulſio communis *Ph. Ed.*

Lac Amygdalæ *Ph. Lond.*

Emulſio arabica *Ph. Ed.*

An ounce, or an ounce and a half of almonds forms an emulſion of a due conſiſtence with a quart of water; which is to be gradually poured on, after the almonds have been firſt thoroughly pounded. A little ſugar or other grateful materials are commonly added, the palatableneſs of the liquor being a point of ſome importance, as it is in all caſes intended to be drank plentifully. For moſt of the intentions, in which emulſions are generally given, gum arabic is an uſeful addition: if the water is heated, to haſten the ſolution of the gum, it muſt ſtand till grown cold before it is poured on the almonds, otherwiſe the emulſion will be imperfect.

The pure oil of almonds, expoſed for a few days, to a heat equal to that of the human body, becomes rancid and acrimonious. Emulſions, on the other hand, on ſtanding for ſome hours, throw up a white cream to the ſurface, and the whey-like liquor underneath grows, not rancid, but ſour. Hence ſome aſcribe to emulſions an advantage, in inflammatory diſtempers, above the pure oil, of not being ſubject to become acrid and irritating by the heat of the body, but tending rather to a ſtate in which they may contribute to abate inflammation. Acids, mixed with emulſions, promote the ſeparation of the oily and ſerous parts, producing immediately a thick curd, nearly after the ſame manner as they do in animal milk.

The pure oil, triturated with a thick mucilage of gum arabic, forms a more permanent emulſion; from which the oil does not ſeparate on ſtanding for ſome days, nor on the addition of acids; though it is ſpeedily diſengaged by alkalies both fixt and volatile. One part of gum, made into a mucilage with an equal quantity of water, is ſufficient for four parts of the oil. The white or yolk of an egg, and a mixture of ſyrup with a ſmall quantity of volatile ſpirit, render the oil alſo ſoluble in water, but leſs perfectly.

Sweet almonds are an uſeful intermedium for uniting with water ſubſtances which of themſelves are not miſcible with it. Camphor, and the purgative and other reſins, whether native or prepared by art, triturated with about ſix times their quantity of almonds, diſſolve along with them in water into a milky liquor, and are thus excellently fitted for being taken in a liquid form.

2. Amygdalæ amaræ *Ph. Lond. & Edinb.* Bitter almonds.

Bitter almonds agree with the ſweet in yielding a large quantity of oil, and in being miſcible with water into an emulſion. The oil has no perceptible bitterneſs, and is not in any reſpect diſtinguiſhable from that of the ſweet almonds: the college allow, for medicinal uſe, the oil of either ſort to be taken indifferently. The matter remaining after the expreſſion of the oil, retains all the bitterneſs, and taſtes much ſtronger than the almond did at firſt.

Oleum amygdalarum *Ph. Lond. & Ed.*

Great part of the bitter matter diſſolves, by the aſſiſtance of heat, both in water and in rectified ſpirit: and a part ariſes alſo with both menſtrua in diſtillation. Spirit ſeems to extract, and water to elevate, the moſt. It did not appear that the whole is diſſolved or elevated by either, or by the alternate application of both.

Bitter almonds, and emulſions made from them, have been recommended as aperients, reſolvents, diuretics, and anthelmintics. They are, doubtleſs, of ſome uſe in the above intentions, but apparently of too dangerous a kind. The almonds in ſubſtance, taken freely, occaſion ſickneſs and vomiting: to dogs, and ſome other animals, they are poiſonous. A ſimple water, ſtrongly impregnated with their volatile parts by diſtillation, has been found alſo poiſonous to brutes; and there are inſtances of cordial ſpirits flavoured by them being poiſonous to man.

It is probable, that the directly noxious matter of the almond is that in which its bitterneſs and flavour reſide; and that the activity of this matter is increaſed, by its ſeparation from the groſs oil and farinaceous ſubſtance, by which it was enveloped and obtunded in the kernel itſelf. The kernels of other fruits, that have any bitterneſs or particular flavour, appear to be impregnated with a ſubſtance of a ſimilar nature to this poiſonous principle of bitter almonds * *(a)*.

ANACARDIUM.

ANACARDIUM: a moderately large kind of nut; whoſe kernel is covered by two tough rinds; betwixt which is lodged a fungous ſubſtance, containing in its cells an extremely acrid matter, in a liquid ſtate when the nut is freſh, though often by long keeping growing dry. It is the produce of certain large Indian trees, of the claſs of the *pruniferæ* of Ray.

1. Anacardium *Ph. Pariſ. Anacardium orientale.* Anacardium or Malaca bean: externally of a ſhining black colour, of the ſhape of a heart flattened, with a very thick pedicle occupying almoſt the whole baſis. The tree, which is found only in the Eaſt Indies, is called by Ray *arbor indica fructu conoide cortice pulvinato nucleum unicum nullo oſſiculo tectum claudente.* It is thought to be the *Avicennia germinans* of Linnæus.

2. Acajou, *Cajous, Anacardium occidentale.* Occidental anacardium or caſhew nut: exter-

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* *(a)* Bergius mentions having frequently preſcribed with ſucceſs an emulſion of bitter almonds in intermittents, in the quantity of a pint or two daily during the intermiſſion; and aſſerts that it had ſometimes cured where the bark had failed. *Mat. Med. p.* 412.

nally of a greyiſh or browniſh colour, of the ſhape of a kidney, ſomewhat convex on one ſide, and depreſſed on the other. The tree, a native both of the Eaſt and Weſt Indies, is called by Ray *pomifera ſeu potius prunifera indica, nuce reniformi ſummo pomo innaſcente*, the Indian tree bearing a fruit like an apple, with a kidney-ſhaped nut growing on the top of the apple; or rather with an apple growing between the nut and its pedicle, for the nut, as he obſerves, is produced firſt. It is the *Anacardium occidentale* of Linnæus.

These nuts have been commended by ſome as poſſeſſing great medicinal virtues, and condemned by others as very dangerous. The kernels appear to have no hurtful quality: they are ſaid to be eaten by the Indians, have a pleaſant ſweetiſh taſte, yield an inſipid oil upon expreſſion, form an emulſion with water, and are apparently of the ſame nature with ſweet almonds. The acrid juice lodged between the rinds is ſtrongly corroſive, and is ſaid to be uſed by the Indians for conſuming fungous fleſh, and for deſtroying the ſenſibility of aching hollow teeth. The juice is recommended by ſome againſt freckles, and other cutaneous deformities; which it removes only by excoriating the part: Geoffroy cautions againſt the too free application of this coſmetic, and relates that he has ſeen eryſipelaſes break out all over the face from the imprudent uſe of it.

ANAGALLIS.

ANAGALLIS Pharm. Pariſ. Anagallis flore phœniceo & anagallis cæruleo flore C. B. Anagallis arvenſis Linn. Pimpernel: a low, creeping,

ing, juicy plant, reſembling chickweed; from which it differs, in the leaves being ſpotted underneath, and having no pedicles; in the ſeed veſſel not opening at top, but horizontally; in the flowers being not white, but red or blue. The red flowered pimpernel is called male, and the blue female: they are both annual, grow wild in corn-fields and other cultivated grounds, chiefly in ſandy ones, and flower from May to Auguſt; the firſt is frequent, the other rare.

The leaves of both the pimpernels have hardly any ſmell; and when chewed in ſubſtance, diſcover little other than an herbaceous taſte. They are not however wholly deſtitute of medicinal powers: for the expreſſed juice, on being depurated by ſettling, and then inſpiſſated to the conſiſtence of an extract, affects the organs of taſte with a pungent ſaline auſterity. It appears therefore that theſe herbs have ſome claim to the reſolvent and detergent virtues aſcribed to them by ſome writers; though neither a decoction or tincture of them, nor their juice in its dilute ſtate, and much leſs their diſtilled water, can exert thoſe virtues in any conſiderable degree.

ANCHUSA.

ANCHUSA, Alcanna, Pharm. Edinb. Anchuſa floribus puniceis C. B. Anchuſa tinctoria Linn. ALKANET: a rough hairy perennial plant, with unbranched procumbent ſtalks; of the bugloſs kind, and differing from the common bugloſſes chiefly in the red colour of its roots. It grows wild about Montpelier and in the eaſtern countries, and is cultivated in ſome of our gardens; but the roots, produced in this climate, are paler coloured than thoſe which we receive from abroad.

The roots of anchuſa, when in perfection, are externally of a deep, purpliſh red colour. The red cortical part, ſeparated from the whitiſh woody pith, imparts a fine deep red to oils, wax, and all unctuous ſubſtances, and to rectified ſpirit of wine. To water, it gives only a dull browniſh hue. The ſpirituous tincture, on being inſpiſſated to the conſiſtence of an extract, changes its fine red to a dark brown. In theſe general properties, the deep and pale roots agree with one another, and differ from all the reſt of the red drugs we know of: it is not, therefore, probable, that the deep colour of the foreign roots is owing, as ſome have ſuppoſed, to the introduction of an extraneous tincture.

Alkanet root has little or no ſmell, and ſcarcely any taſte: extracts made from it, by water and by ſpirit, are bitteriſh and roughiſh, but in too low a degree to be regarded as medicines. Its chief uſe is for colouring oils, plaſters, lip-ſalves, *&c.* which receive a fine deep red from one fortieth their weight of the root: the conſiſtent unctuous materials are for this purpoſe to be liquefied in the heat of a water bath, the powdered anchuſa added, the mixture ſtirred now and then, till ſufficiently coloured, and then ſtrained through a linen cloth. Pomatum rub. *Ph. Pariſ.*

ANDROSACE.

ANDROSACE ſive Acetabulum Pharm. Pariſ. Acetabulum marinum minus Tourn. Androſaces matthioli, ſive fungus petræus marinus, ſive umbilicus

licus marinus J. B. Cotyledon marina: A ſubmarine production, found on rocks and on the ſhells of fiſhes, about the coaſts of Montpelier and elſewhere; conſiſting of numerous, ſlender, ſhort, filaments, more or leſs bent or arched, of a whitiſh or grey colour, hard and brittle, bearing each upon the top a ſtriated concave body nearly of the figure of an inverted cone.

This ſubſtance reduced into powder, is uſed in France, as we are told by the faculty of Paris in the laſt edition of their *codex medicamentarius*, for deſtroying worms, and for dropſies. It does not however promiſe to be of any ſervice in either of theſe intentions; or to differ materially from the coralline, which has alſo been uſed, as a vermifuge, with little ſucceſs: like that marine body, it is apparently of a ſtony or teſtaceous nature, impregnated with a little ſaline matter, which, when freſh, it diſcovers to the taſte. It is remarked of the dried *androſace*, that on being held in the flame of a candle, it yields a dazzling brightneſs, and this repeatedly for ſeveral times *(a)*; a phenomenon which I have obſerved the coralline alſo to exhibit.

ANETHUM.

ANETHUM Pharm. Lond. & Edinb. Anethum hortenſe C. B. Anethum graveolens Linn. Dill: an annual umbelliferous plant, with very finely divided leaves and yellow flowers: producing browniſh or dark coloured oval ſeeds, flatted on one ſide, convex and marked with three longitudinal ridges on the other, and ſurrounded about the edges with a yellowiſh leafy margin. It is a native of the warmer climates, cultivated with us in gardens, flowers in July, and in September ſheds its ſeeds, by which the plant is plentifully propagated.

(a) *Act. nat. curioſ. dec.* ii. *ann.* 2. *p.* 120.

The ſeeds of dill have a moderately warm pungent taſte, and an aromatic ſmell, but not of the moſt agreeable kind: they are given as carminatives, to the quantity of a dram at a time, in flatulent colics and indigeſtion from a laxity of the organs and viſcidity of the humours. The leaves are weaker and leſs grateful than the ſeeds: the roots have nothing of their flavour.

Water extracts very little of the virtues of dill ſeeds by infuſion or digeſtion for many hours. In boiling, their whole flavour exhales along with the watery vapour, and may be collected by diſtillation: the diſtilled water, drawn off to the quantity of a gallon from a pound of the ſeeds, is kept in the ſhops, and occaſionally made the baſis of carminative draughts and juleps: its flavour is more agreeable than that of the ſeeds in ſubſtance. The ſimple water keeps better than any in the ſhops. A two ounce vial full, corked, after ſtanding on a ſhelf many years, was clear, without feculence, and retained the flavour of the dill; and might then be looked on as an elegant ſimple water. Along with the water ariſes a conſiderable portion of eſſential oil, in taſte moderately pungent, and ſmelling ſtrongly of the dill: this is given from one to three or four drops or more, as a carminative, and in hiccups.

Aqua anethi
Ph. Lond.
& Ed.

Rectified ſpirit, digeſted on dill ſeeds, readily extracts both their ſmell and taſte: the colour of the tincture is a bright yellow: the ſpirit, gently diſtilled off from the filtered liquor, brings over very little of its flavour, leaving in the extract nearly all the active parts of the ſeed.

ANGELICA.

ANGELICA: a large umbelliferous plant; with hollow, jointed ſtalks; and indented, oval, pointed leaves, ſet in pairs along a middle rib with an odd one at the end, containing in their veins a milky juice, which on drying turns yellowiſh: the ribs of the leaves are channelled on the upper ſide, and joined to the ſtalks by large membranous baſes or ſheaths. The ſeeds are white or pale coloured, ſomewhat oval, flat on one ſide, convex and marked with three longitudinal ridges on the other, ſurrounded about the edges with a leafy margin. The roots are long and thick, externally of a dark brown colour, internally white and juicy, and when dry of a ſpongy texture.

1. Angelica silvestris: *Pharm. Edinb. Angelica ſylveſtris major C. B. Angelica ſylveſtris Linn.* Wild angelica; with all the leaves alike, except that the odd one at the end is larger than the reſt. This ſpecies grows wild, in moiſt grounds, in ſeveral parts of England: it is perennial, and flowers in July. All the parts of this plant are ſimilar in quality to thoſe of the following ſpecies, but rather weaker, and hence the medicinal uſe of this is now ſuperſeded by the other.

2. Angelica, *Pharm. Lond. Angelica ſativa. Pharm. Edinb. & C. B. Angelica Archangelica Linn.* Angelica, garden angelica; with the odd leaf at the end of each rib, and generally

ſome of the others alſo, cut into two or three lobes.

This is found by the ſides of rivulets in the mountains of Lapland, and cultivated in gardens in the different parts of Europe for medicinal purpoſes and for the uſe of the confectioners. Bohemia and Spain are ſuppoſed to produce the beſt; the college of London directs the roots brought from Spain only to be kept in the ſhops. Linnæus, however, aſſures us, that it proves moſt vigorous on its native northern mountains (*a*). It is naturally a biennial plant; but if the ſtalks are cut down before they have run to flower, the roots ſend forth new heads, and may thus be continued for many years. The roots are in greateſt perfection in the ſecond ſpring: they ſhould be thoroughly dried, kept in a very dry place, and frequently aired, otherwiſe they are apt to grow mouldy, and to be preyed upon by worms.

The roots of angelica are one of the principal aromatics of European growth, though not much regarded in the preſent practice. They have a fragrant agreeable ſmell, and a bitteriſh pungent taſte, mixed with a pleaſant ſweetiſhneſs, glowing upon the lips and palate for a long time after they have been chewed. On wounding the freſh root early in the ſpring, it yields, from the inner part of the bark, an unctuous yellowiſh odorous juice, which, gently exſiccated, retains its fragrance, and proves an elegant aromatic gummy-reſin. On cutting the dry root longitudinally, the reſinous matter, in which the virtue and flavour of the angelica reſides, appears concreted into little veins (*b*).

(*a*) *Suenſka vetenſk. acad. handl.* 1754.

(*b*) Grew, *idea of philoſophic. hiſt. of plants,* § 41.

In this ſtate, it is readily and totally diſſolved by rectified ſpirit, and tinges the menſtruum of a bright golden colour: on diſtilling off the ſpirit from this ſolution, very little of the flavour of the angelica ariſes with it, nearly all the active matter of the root remaining concentrated in the extract. Water gains alſo from this root a pretty deep yellow colour, but extracts little of its taſte or ſmell: in diſtillation with water, there ariſes a ſmall portion of eſſential oil, of an highly pungent taſte, and ſmelling ſtrongly of the angelica: the remaining decoction, thus diveſted of the aromatic matter of the root, is nauſeouſly ſweetiſh and ſubacrid.

The other parts of the plant have the ſame kind of taſte and flavour with the roots, but their active principles are far more periſhable. The ſeeds, which come the neareſt to the roots, can ſcarce be kept till the ſpring after they have been gathered, without the loſs of their vegetative power, as well as a diminution of their medicinal virtue: the leaves loſe greateſt part of their virtue on being barely dried. For ſome purpoſes, however, they are well adapted: the freſh leaves, as well as the ſeeds, on being diſtilled with water, give over to the liquor the whole of their aromatic matter, which in this form proves ſufficiently durable: ſome of the officinal diſtilled waters are flavoured with theſe materials, and the committee of the London college report, that after trial of ſundry others, for removing the diſagreeable flavour which the addition of vinegar communicates to ſpirituous waters, angelica was found to anſwer this end the moſt effectually. The virtue of the ſeeds, like that of the roots, is extracted very imperfectly by water, and completely by ſpirit; and though it riſes totally in diſtillation with water, is left by ſpirit, almoſt entire, in the inſpiſſated extract: the ſpirituous tincture is of a bright ſtraw colour, the watery infuſion of a dark brown.

The ſtalks, candied with ſugar, make an agreeable ſweetmeat.

ANIME.

RESINA COURBARIL. Anime: a tranſparent amber-coloured reſin, exuding from the trunk of a large tree growing in Brazil and New Spain; *Hymenæa Courbaril Linn.* A finer ſort is ſaid to be ſometimes brought from the eaſtern countries; but in the ſhops, only the American is met with, of different degrees of purity: the ſmall tears are generally the pureſt; the larger maſſes being often full of earth, agreeably to Piſo's account, that the liquid juice, running down from the tree, ſinks into the ground, and is thence afterwards dug up.

Anime has a light pleaſant ſmell, and little or no taſte. It is readily friable between the teeth, but on long chewing ſoftens and ſticks together. Laid on a red-hot iron, it immediately melts, catches flame, and burns quickly away, with a fragrant ſmell, leaving only a ſmall quantity of whitiſh aſhes. It gives out little or nothing to aqueous liquors, but diſſolves entirely in rectified ſpirit: the ſolution is of a yellow colour, ſmells agreeably of the anime, and has a warm pungent bitteriſh taſte. The fragrance of this reſin ariſes totally in diſtillation with water, and in part with ſpirit: on diſtilling with water a large quantity of anime, a ſmall portion of eſſential oil is obtained.

The Brazilians are ſaid to employ anime in fumigations for pains and aches proceeding from cold; and in liniments or plaſters for paralytic complaints, bruiſes, *&c.* With us, it is rarely, if ever, made uſe of for any medicinal purpoſe.

ANISUM.

ANISUM Pharm. Lond. & Edinb. Apium aniſum dictum ſemine ſuaveolente Tourn. Pimpinella Aniſum Linn. Anise: a ſmall annual umbelliferous herb; producing roundiſh ſtriated ſeeds, flatted on one ſide and pointed at one end, of a pale colour inclining to a green. The upper leaves are divided into fine ſegments; the lower entire, roundiſh, and ſerrated about the edges. This plant, ſaid to be a native of Egypt, Syria, and other places of the eaſt, is cultivated, for medicinal and culinary uſes, in the ſouthern parts of Europe: it is raiſed alſo in ſome of our gardens, but ſeldom brings its ſeeds to perfection in this climate. The ſeeds brought from Spain, which are diſtinguiſhed from thoſe of other countries by being ſomewhat ſmaller, are accounted the beſt.

Aniseeds have an aromatic ſmell, and a pleaſant warm taſte accompanied with a degree of ſweetneſs. They are of common uſe, as a warm carminative, in flatulent colics, in the gripes to which young children are ſubject, in flatulent pains and obſtructions of the breaſt, in weakneſs of the ſtomach and indigeſtion, in diarrhœas, and for ſtrengthening the tone of the viſcera and inteſtines in general: they are ſuppoſed to be in theſe intentions the moſt effectual of the warm ſeeds. They are ſometimes

times taken in powder, from a ſcruple to a dram; and in ſome places entire, candied with ſugar.

They totally give out their virtue to rectified ſpirit, the ſeeds, after the action of this menſtruum, proving inodorous and inſipid: the tincture is of a bright lemon colour, and taſtes very agreeably. The ſpirit, diſtilled off from the filtered tincture, has a light taſte of the ſeeds, but leaves far the greateſt part of their virtue behind in the extract, which proves a very pleaſant, ſweetiſh, moderately warm, and not very pungent aromatic. In all theſe preparations made with rectified ſpirit, the peculiar ſmell of the aniſeeds, to ſome perſons offenſive, is in great meaſure covered by the ſpirit.

Infuſed in water, they impart a little of their ſmell, but ſcarcely any taſte: in diſtillation they give over the whole of their flavour, the remaining decoction having nothing of the peculiar ſcent or taſte of the aniſeeds. Along with the water ariſes an eſſential oil, to the quantity of an ounce or more from three pounds. This oil, in colour yellowiſh, congeals, even when the air is not ſenſibly cold, into a butyraceous white concrete. Its ſmell, which exactly reſembles that of the aniſeeds, is extremely durable and diffuſive; its taſte milder and leſs pungent than that of almoſt any other diſtilled vegetable oil: twenty drops may be taken for a doſe, though common practice rarely goes beyond half that number: it is recommended chiefly in diſorders of the breaſt, and ſaid to be leſs effectual in flatulencies and colics, than the ſeeds in ſubſtance. Geoffroy obſerves, that milk, drawn from the breaſt ſoon after

Ol. eſſentiale ſem. aniſi *Ph. Lond. & Ed.*

after the oil has been taken, is found impregnated with its ſmell.

Theſe ſeeds yield an oil likewiſe upon expreſſion, of a greeniſh colour, in taſte grateful, and ſtrongly impregnated with the flavour of the ſeeds: ſixteen ounces, lightly moiſtened by expoſure to the ſteam of boiling water, are ſaid to afford one ounce. This oil is compoſed of a groſs, inſipid, inodorous one, of the ſame nature with the common expreſſed oils; and of a part of the eſſential oil of the ſeed, on which its flavour depends. On digeſting the compound in rectified ſpirit, the odorous oil is extracted; in diſtillation with water it is elevated, ſo as to leave the other by itſelf inodorous and inſipid. The groſs oil appears to reſide in the kernel of the ſeed, the eſſential in the cortical part.

Among the aromatics, of ſimilar intention, that have been tried in compoſition with aniſeeds, thoſe of angelica ſeem the beſt adapted to improve their flavour. A ſpirituous water prepared from a mixture of equal parts of the two, by drawing off a gallon of proof ſpirit from half a pound of each of the ſeeds, is commonly kept in the ſhops, and proves a ſufficiently elegant carminative cordial.

ANISUM STELLATUM.

ANISUM STELLATUM, ſeu ſinenſe & philippenſe, & ſemen badian Pharm. Pariſ. Fœniculum ſinenſe; Cardamomum ſiberyenſe. Zingi. INDIAN OR STELLATED ANISE: a fruit or ſeed veſſel; conſiſting of ruſty brown coloured hard wrinkled capſules, half an inch or more in length, joined together by the baſes, to the number of ſix or more, in the form of a ſtar;

each of which includes one ſeed or kernel, externally gloſſy and of the colour of linſeed, internally white. It is the produce of a ſmall tree, growing in Tartary, China, and the Philippine iſlands, called by Plukenet *euonymo affinis philippinarum inſularum, aniſum ſpirans, nuculas in capſulis ſtelliformiter congeſtis proferens:* by Linnæus, *Illicium aniſatum.*

The capſules or huſks of the ſtellated aniſe have a fragrant ſmell, and a ſweetiſh glowing, not fiery, aromatic taſte; reſembling thoſe of the common aniſeeds, or rather of a mixture of aniſeeds and fennel-ſeeds, but ſtronger and more agreeable. The ſeeds are ſaid by ſome to have neither taſte nor ſmell: of ſmell they have very little; but in chewing they fill the mouth with an agreeable aromatic flavour, of the ſame kind with that of the huſks, but weaker, and accompanied with a greater ſweetneſs.

The ſeeds afford, in diſtillation with water, the largeſt quantity of eſſential oil; and the huſks, on being treated with ſpirit, yield the moſt acrid reſinous extract *(a)*. The oil is more limpid, and ſubtile, as well as more fragrant, than that of the common aniſeeds *(b)*; and the ſpirituous extract much warmer and more pungent. Infuſions of the huſks in water, diveſted of their more volatile parts by evaporation, leave an extract ſlightly aromatic, amounting to twice the quantity of that obtained by ſpirit, or half the quantity of the huſks themſelves *(c)*.

(a) Cartheuſer, *fundamenta m. m.* ii. 327.

(b) Geoffroy, *m. m.* ii. 470.

(c) Cartheuſer.

Theſe ſeeds are employed in the eaſtern countries, and in ſome parts of Europe, in preference to the common aniſeeds, to which they appear, from their ſenſible qualities, to be ſuperiour. They have not as yet been received in practice among us, and are very rarely to be met with in the ſhops.

ANTHORA.

ANTHORA Pharm. Pariſ. Antithora. Aconitum ſalutiferum ſive anthora C. B. Aconitum Anthora Linn. YELLOW HELMET FLOWER: a plant with divided leaves, and naked flowers conſiſting of five petals, the uppermoſt of which is ſhaped like a hood: each flower is followed by three or more pods, containing wrinkled angular ſeeds. It is diſtinguiſhed from the other aconites or wolfsbanes, by the leaves not being gloſſy, by their being cut quite down to the pedicle, and by the ſegments being very narrow and of nearly the ſame width from end to end.

This plant is a native of the Alps and Pyreneans, from whence the dried roots are ſometimes brought to us. They are generally of an irregular roundiſh ſhape, ſometimes a little oblong, of a brown colour on the outſide and white within, hard to break, but not tough.

THE root of anthora has a faint ſmell, and an acrid bitter taſte, conſtringing the fauces and throat, accompanied with a kind of nauſeous ſweetiſhneſs. Its medical qualities are doubtful. Some(b) look upon it as a ſafe anthelmintic, an uſeful alexipharmac in malignant fevers, and even as an antidote to the poiſonous aconites, particularly the ſpecies called *thora*, from its ſuppoſed efficacy againſt which it is ſaid to have received its name: others*(a)* aſcribe to it virulent qualities, and relate inſtances of its occaſioning vomiting, purging, great diſorders of the ſtomach, heat, thirſt, and anxiety. A competency of experiments, to fully determine this point, is as yet wanting: poſſibly this root, like many others, may be poſſeſſed of noxious qualities when freſh, which are in great meaſure diſſipated or deſtroyed by drying or long keeping. But as all the ſalutary effects, that can be rationally expected from this drug, are obtainable from medicines of known innocence; common practice has never received the anthora, and the colleges both of London and Edinburgh have now expunged it from their catalogues of officinals.

(b) Geſner, *epiſt. p.* 66 & 142. Geoffroy, *mat. med.* ii. 11.

ANTIMONIUM.

ANTIMONIUM Pharm. Lond. Antimonium, ſtibium, Pharm. Edinb. ANTIMONY: a ponderous brittle mineral, compoſed of long ſhining ſtreaks like needles, intermingled with a dark leaden coloured ſubſtance; of no manifeſt taſte or ſmell. It is uſually brought into the ſhops in the form of conical loaves.

There are ſeveral mines of antimony in Germany, Hungary, and France, and ſome likewiſe in England. It is ſometimes found tolerably pure, but more commonly blended with a hard ſtone or ſpar, from which the antimony is ſeparated by eliquation. The mineral being

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(a) J. Bauhin. *hiſt. plant. p.* 94. L'Obel, *adv. p.* 301. Hoffman, *de medicament. inſecur.* § 30.

broken in pieces, put into earthen pots whoſe bottoms are perforated with ſmall holes, and a moderate fire applied round the veſſels, the antimony melts out, and is received in conical moulds placed underneath. In theſe, the lighter and more droſſy matter riſes to the ſurface, while the purer and more ponderous ſubſides to the bottom: hence the upper broad part of the loaves is conſiderably leſs pure than the lower. The antimony, thus purified, is called *crude*, in diſtinction from its officinal preparations.

In ſome places the native mineral has been employed without purification. The maſſes which have ſuffered fuſion may be readily diſtinguiſhed, by the form which they receive from that operation; by their being free from any viſible ſtony matter, pieces of which are generally found adhering to the unwrought ore; and by their ſtriæ being larger. The Engliſh antimony appears to be, of all the ſorts, the moſt unfit for medicinal uſe, as having ſometimes an admixture of particles of lead ore, of which I have ſeen ſpecimens.

Antimony was employed by the antients in collyria againſt inflammations of the eyes, and for ſtaining the eye-brows black. Its internal uſe does not ſeem to have been eſtabliſhed till towards the end of the fifteenth century, and even then it was by many looked upon as poiſonous. Experience has now fully evinced, that in its crude ſtate, or when duly prepared, it is a medicine of ſufficient ſafety, and of great efficacy in ſundry obſtinate diſorders, and that though ſome of its preparations are moſt violently cathartic and emetic, yet even theſe, by a ſlight alteration or addition, loſe their virulence and become mild.

Antimonial medicines are principally made uſe of, as alterants, deobſtruents, or gentle evacuants; in cutaneous foulneſſes not ſcorbutic; in rheumatic pains and contractions of the limbs(a); in leucophlegmatic, cachectic, and catarrhous diſorders; in intermittent fevers from obſtructions of the viſcera, as obſtinate quartans; and ſometimes in continual fevers, and for promoting expectoration in peripneumonic and aſthmatic caſes: they generally have better effects in cold ſerous habits, than in hot bilious diſpoſitions. The more active preparations are employed as emetics in apoplectic and maniacal diſorders. It is obſervable, that even the ſtrongeſt antimonials, the cauſtic ſolutions in mineral acids excepted, are given to horſes in large quantity, ſome ounces a day, without any ill effect: in theſe animals, both crude antimony and its preparations ſeem to operate by promoting perſpiration.

The virulent effects, which antimony produces in certain circumſtances, have been aſcribed by many to its participating of an arſenical ſubſtance(b). But the chemical properties of antimony, alledged in proof of this ſuppoſition, are by no means characteriſtic of that poiſonous mineral; and its operation in the human body is extremely different. The moſt violent antimonials are rendered inactive by means which do not leſſen the deleterious quality of arſenic; and ſome act with violence in far leſs doſes than pure arſenic itſelf.

(a) Two remarkable caſes of the efficacy of antimony in pains and in inveterate contractions of the limbs, are related by Kunckel in his *laboratorium chymicum,* 3 *theil,* 32 *capit.*

(b) Neumann, *chym. med. dogmat. experimental.* ii. 339. Hoffman, *metallurg. morbif.* § 21. Stahl, *menſ. Decemb. cap.* 3. *opuſc. p.* 486. 491.

Regulus antimonii.

CRUDE antimony is properly an ore, or a combination of a particular metal with common ſulphur. The metallic part, like that of other ſulphureous ores, is ſeparated in its proper form, by roaſting the powdered mineral over a gentle fire till the ſulphureous fumes ceaſe, and then melting the remaining grey calx with inflammable fluxes. The flux commonly uſed for theſe purpoſes by the chemiſts, called from its colour *black flux*, is compoſed of two parts of crude tartar and one of nitre, ground together, ſet on fire, and burnt in a covered veſſel to a blackiſh alkaline coal.—The ſulphur alſo may be obtained in its pure ſtate, by digeſting the powdered mineral in aqua regis, which diſſolves the metallic part, leaving the ſulphur in form of a greeniſh yellow ſubſtance: this, purified by ſublimation, appears, on all trials, the ſame with common brimſtone. The proportions of ſulphur and metal vary in different antimonies; ſome ſorts ſeem to hold about two parts of metal to one of ſulphur, and others nearly equal parts of each.

Sulphur antimonii verum.

The pure metal, called *regulus* of antimony, is of a bright white colour, a plated or leafy texture, very brittle, nearly ſeven times ſpecifically heavier than water. It melts in a low white heat, and if continued in fuſion, in an open veſſel, gradually exhales in thick whitiſh fumes, which condenſe, on the bodies adjacent, into white flowers. Melted with common brimſtone, it becomes ſimilar, both in appearance and quality, to crude antimony. Crude antimony, like moſt other ſulphureous ores, is eaſier of fuſion than its pure metal; it melts before it grows red-hot, though not before the veſſel is conſiderably ſo.

It is in this metallic part of antimony, that its proper medicinal powers reſide. The pure metal is a medicine of extreme activity: a quantity too minute to be ſenſible on the tendereſt balance, is capable of producing violent effects if given diſſolved or in a ſoluble ſtate. Acid wines take up ſo little of it, that the metal, after a number of infuſions, ſeems to have loſt nothing of its weight: theſe tinctures, nevertheleſs, prove, in moderate doſes, ſtrongly emetic or cathartic; and in very ſmall ones, for the moſt part diaphoretic. It has been caſt into the form of ſmall pills, which acted as violent cathartics, and after their paſſage through the body have operated in the ſame manner again, and this repeatedly for a great number of times.

THE activity of this metal is abated by calcination, or by the expulſion of the inflammable principle, which makes a conſtituent part of this as of other metallic bodies: when thoroughly calcined, it appears entirely inert. Thus, if ground with twice or thrice its weight of nitre, and thrown by little and little into a red-hot crucible, it ſlightly deflagrates, and being now freed from the ſaline matter by ablution with water, is found changed into a perfect white calx, which though taken in doſes of a dram or two, is ſaid to have no ſenſible operation. In this deflagration, a part of the nitre is alkalized, and a portion of the calx diſſolves in the water along with the alkali, as generally happens in the calcination of other metallic bodies with nitre: acids, added to this ſolution, precipitate the diſſolved calx in form of a ſubtile white powder,

Ceruſſa antimonii.

Materia perlata.

powder, which is equally inactive with the undiſſolved part. Theſe perfect calces, of themſelves fixt and unfuſible in the fire, melt with ſaline additions, as fixt alkaline ſalt and borax, into a pale yellowiſh glaſs, inert (a) as the calces at firſt.

The preciſe gradations of activity, between the virulence of the metal in its perfect metallic ſtate, and its indolence in that of a perfect calx, are not well known; but thus much is certain, that it continues extremely active till the calcination is almoſt complete. When crude antimony is roaſted over a gentle fire and kept conſtantly ſtirring, till the ceſſation of the fumes ſhews the ſulphur to be diſſipated, the metal remains in form of a greyiſh-white powder, ſo far calcined, that on being urged with a ſtrong fire, it melts into a dark yellowiſh red glaſs, no part of it reſuming its metallic form. Nevertheleſs, both the calx and the glaſs are very virulent emetics; differing, however, from the metal itſelf, in this, that their active parts are ſoon exhauſted by repeated infuſion in vegetable acids (b), whereas the metal, ſo far as the experiment has been carried, ſeemed to loſe nothing of its power.

Vitrum antimonii *Ph. Ed.*

Antimonium vitrificatum *Ph. Lond.*

The activity of the metal is reſtrained likewiſe by the combination of ſulphur with it. Crude antimony, a natural mixture of it with ſulphur, is altogether mild; doſes of half a dram, or a dram, for the moſt part only gently looſening the belly, or promoting inſenſible perſpiration: the greater degree of tenuity the powdered mineral is reduced to, the more

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(a) Malouin, *chemie medicinale, part* iv. *chap.* 50.

(b) Boerhaave, *elem. chem. proceſſ.* 210.

conſiderable

conſiderable are its effects; and the caſe appears to be the ſame in regard to all the antimonials that are not totally diſſoluble in the animal fluids.

If a part of the ſulphur of the antimony be ſeparated, by ſuch operations as do not calcine the metal, the remaining maſs proves proportionably more active. Hence, as different ſorts of crude antimony, and different parts of one and the ſame maſs, hold manifeſtly different proportions of ſulphur, it is probable that they vary in degree of activity.

The ſulphur of antimony is ſeparated by deflagration with nitre: the greater the quantity of nitre, to a certain point, the more of the ſulphur is conſumed, and the more does the metal, thus diveſted of its corrector, exert its virulence. An increaſe of the nitre, beyond the quantity which is ſufficient to ſeparate the ſulphur, renders the products, contrariwiſe, milder and milder; by more and more calcining, or deſtroying the powers of, the metal itſelf.

Crocus antimonii medicinalis.

Crocus antimonii mitior *committ. of Lond. col.*

Thus, antimony deflagrated with *one eighth* its weight of nitre, is ſaid to act chiefly, in doſes of fifteen or twenty grains, as an alterative or diaphoretic: with *one ſixth* its weight, it vomits and purges, for the moſt part very mildly, in doſes of eight or ten grains: with *half* its weight, it vomits ſtrongly, in the quantity of from one to five or ſix grains; and with *equal* its own weight†, it proves, in the ſame doſes, a moſt violent emetic, operating as it were inexhauſtibly, till its whole ſubſtance is expelled. All theſe preparations are of a dark red or yellowiſh red colour, and hence perhaps their name of crocus or ſaffron. The three firſt are taken from the fire as ſoon as the deflagration ceaſes;

† Crocus antimonii *Ph. Lond. & Ed.* metallorum *vulgo:* Hepar antimonii *quibuſdam.*

ceaſes: the laſt, which is the officinal crocus, is kept for ſome time in fuſion, during which a whitiſh ſaline ſcoria riſes to the ſurface, which is ſeparated when the maſs grows cold.

The laſt of the above proportions of nitre, to wit, *equal* the weight of the antimony, ſeems to be nearly that by which all the ſulphur is deſtroyed, and the metallic part left bare. If the nitre be increaſed to *twice* the weight of the antimony, the metal itſelf is ſo far calcined by it, as to appear, after the deflagration, white; and if now freed from the ſaline matter by ablution with water, proves ſo mild, as to occaſion only ſome light nauſea and gentle vomiting, with a large diſcharge of ſaliva and thick urine. If the antimony be treated in the ſame manner with *thrice* its weight of the ſalt, it becomes a perfect indolent calx, the ſame with that obtained by calcining the pure metal with nitre.

Emeticum mite antimonii *Boerhaave.* Antimonium calcinat. *Ph. Lond.* Antimon. diaphoret. *vulgo.* Anodynum minerale *Ph. Brand.*

In this deflagration, a part of the nitre is changed by the ſulphur into a neutral ſalt ſimilar to that prepared from pure ſulphur and nitre deflagrated together, that is, to the *nitrum vitriolatum:* this ſalt may be recovered from the water in which the calx is waſhed, by filtration, evaporation, and cryſtalization. A part of the nitre becomes likewiſe an alkaline ſalt, which, as formerly obſerved, renders a part of the metallic calx diſſoluble: the cryſtallized ſalt is found to retain a little of this calx, but cannot be expected to receive from thence any particular virtues.

* The Edinburgh college, in their laſt pharmacopœia, direct the grey calx of antimony, as prepared for making the glaſs, to be calcined for an hour with equal its weight of nitre,

Calx antimonii nitrata *Ph. Ed.*

and the mixture then to be waſhed with warm water till it becomes taſteleſs.

Pulvis antimonialis *Ph. Lond.*

The London college have now admitted a calx of antimony, prepared in a peculiar mode, and ſaid to be very ſimilar to the preparation ſo well known under the name of *James's Powder.* Crude antimony, with an equal weight of hartſhorn ſhavings, are thrown into a red-hot iron pot, and agitated till they become of an aſh colour. The matter is then put into a crucible with another inverted upon it, and kept in a red heat for two hours. It is then ſuffered to cool, and reduced to a fine powder.

The ſulphur of antimony is ſeparated alſo by fuſion with fixt alkaline ſalts, which abſorb it, and form with it a ſcoria on the ſurface. On melting five parts of antimony, with one of ſalt of tartar, and four of ſea ſalt, which laſt does not appear to be of any great uſe in the proceſs, a ponderous dark reddiſh maſs is obtained, which, ſeparated from the ſcoria, is found to be ſimilar in quality to the crocus prepared with one eighth of nitre; about as much of the ſulphur being here abſorbed and ſcorified by the alkali, as is there burnt off by the nitre. This preparation is greatly celebrated by Hoffman and others, in ſundry obſtinate chronical diſorders, and eſteemed one of the beſt antimonials that can be given with ſafety as alterants: it operates chiefly as a diaphoretic, and ſometimes, though rarely, by ſtool or vomit; the doſe is from three or four grains to a ſcruple.

Febrifugum craanii *Ph. Brand.*

If eight parts of antimony, ſix of tartar, and three of nitre, be mixed together, deflagrated, and brought into fuſion, the alkaline ſalt, reſulting from the nitre and tartar, will abſorb the whole of the ſulphur of the antimony, and the metallic part will fall pure to the bottom. Only a ſmall quantity, however, of the metal ſeparates in this proceſs; for as ſoon as the alkali and ſulphur are combined together, this compound begins to diſſolve and ſcorify the metal, and ſcorifies more and more of it in proportion to the continuance of the fire; if the pure metal be melted with a compoſition of ſulphur and alkali, it is in like manner changed into a ſcoria.

Sulphur antimonii præcipitatum *Ph. Lond.*

Theſe alkaline ſcoriæ diſſolve in boiling water; and on adding acids, as the dilute vitriolic, to the filtered ſolution, the ſulphur and metal are precipitated together, in form of a reddiſh or reddiſh-yellow powder.—A like ſolution may be obtained by boiling crude antimony in alkaline lye: which, like the alkaline ſalts brought into fuſion by fire, firſt diſſolves the ſulphur, and then, by the mediation of this, takes up a very conſiderable part of the metal: the college of Edinburgh directs two pounds of powdered antimony to be boiled in two quarts of ſoap lyes diluted with three pints of water, the matter being kept ſtirring with an iron ſpatula, and freſh water occaſionally added to ſupply that which evaporates, for three hours; and the precipitation to be made by dropping diluted ſpirit of nitre into the ſtrained liquor whilſt hot: if the ſolution is ſuffered to cool, a ſpontaneous precipitation happens.—It is probable, that when the ſolution is thus procured by boiling in lye, the precipitate will be of more uniform ſtrength, or vary leſs in the quantity of metal, than when the antimony and alkaline ſalt have been melted together; and that the precipitate, thrown down by acids, will be leſs variable than that which is permitted to ſeparate ſpontaneouſly. In either caſe, however, the

Sulph. antimon. præcipit. *vulgo.* Sulph. aurat. antim. *Ph. Ed.*

Kermes minerale. *vulgo.*

the powder, which falls firſt, proves darker coloured, contains more of the metal, and operates with more force, than that which ſubſides afterwards. The uſing of the nitrous, marine, or vegetable acids, for the precipitation, is indifferent to the medicine; but the vitriolic might occaſion a variation; the neutral ſalt, reſulting from the coalition of this acid with the alkali, being leſs ſoluble in water, and not eaſily ſeparable from the precipitate by waſhing.—Theſe precipitates, waſhed from as much of the adhering ſaline matter as hot water will diſſolve, prove gently emetic, in doſes of five or ſix grains, when taken on an empty ſtomach. Made into pills with extracts or reſins and taken on a full ſtomach by a little at a time, they act chiefly as alteratives and deobſtruents: with theſe cautions, I am told, they have been increaſed to ſixteen grains a day, without occaſioning any diſturbance upwards or downwards.

The alkaline ſcoriæ of antimony, pulverized whilſt hot, and digeſted for three or four days in rectified ſpirit of wine, communicate the ſame colour, taſte, and ſmell, as a mixture of pure ſulphur with alkalies. It is ſaid that theſe tinctures taken on an empty ſtomach, have ſometimes proved emetic.

The ſulphur of antimony is abſorbed likewiſe by moſt of the metals; moſt freely by iron. For this purpoſe, ſome iron nails, wire, or other like ſmall pieces that may lie looſe in the crucible, are heated to a ſtrong red heat, and about twice their quantity, or a little more, of antimony thrown upon them: the ſulphur of the antimony immediately acts on the iron, and as ſulphur greatly promotes the fuſion of that metal, the whole ſoon melts: a little nitre is then injected, about one part to ſix of the antimony, the crucible covered again, and the matter, when brought into thin fuſion, poured into a warm greaſed cone or mortar. The regulus, freed from the ſulphureo-ferrugineous ſcoriæ, is purified by repeated fuſion with one ſixth or one eighth its weight of freſh nitre, till the nitre no longer receives from it any yellow or amber colour: if the regulus diſcovers, by its dull grey colour, ſpongineſs, hardneſs, and difficulty of fuſion, that it retains much of the iron, a little freſh antimony is injected, whoſe ſulphur, abſorbing the iron, haſtens the purification. If the metal when poured out be in exceeding thin fuſion, and the quantity of ſcoriæ covering its ſurface conſiderable, it generally aſſumes on the top a radiated ſtar-like effloreſcence.

Regul. antim. martialis.

Regul. antim. ſtellatus.

This regulus, though venerated by ſome of the chemiſts, is not materially different from that obtained by ſimply calcining the antimony, and reviving the calx with inflammable fluxes. —The ſcoriæ reſulting from the firſt fuſion with iron are little other than a ſulphurated iron, ſcarcely retaining any thing of the metallic part of the antimony: expoſed to the air, in a ſhady place, they fall into a black powder, whoſe finer parts, waſhed off with water, and deflagrated with thrice their weight of nitre, are Stahl's aperient crocus†: the groſſer part, treated in the ſame manner, is ſaid to be not aperient, but enormouſly aſtringent‡ (a). — The amber coloured ſcoriæ, ariſing in the purification of the regulus with nitre, are an exceſſively ſtrong cauſtic alkali‖; powdered and thrown whilſt hot into highly rectified ſpirit

† Crocus martis aperitivus Stahlii.

‡ Crocus martis aſtringens Stahlii.

‖ Nitrum cauſticum Scoria reguli ant. ſuccinea.

(a) Stahl, *menſ. Januar. Opuſc. p.* 523.

of wine, they impart, by digeſtion and agitation, a deeper or paler red colour §, according as the ſpirit was more or leſs oily, together with a penetrating pungency, and, as is ſuppoſed, a detergent and diuretic virtue (a).

§ Tinct. antimonii acris *Ph. Brand.* &c.

The metallic part of antimony is corroded by the nitrous and vitriolic acids, into a white powder; and totally diſſolved by aqua regia, if made with only a ſmall proportion of nitrous acid, into a corroſive liquor. It may likewiſe be combined with the marine acid into a liquid form, by particular methods of application. If corroſive mercury ſublimate (a combination of mercury with the concentrated marine acid) be mixed in powder with half its weight of powdered antimony; the acid of the ſublimate begins immediately to act upon the metallic part of the antimony, and fumes, extremely noxious, ariſe ſo copiouſly, that the utmoſt circumſpection is requiſite for avoiding them: the mixture being ſet to diſtil in a wide necked retort, with a fire cautiouſly increaſed, the antimonial regulus ariſes, combined with the acid into a thick cauſtic liquor, which congeals, in the neck of the retort, in appearance like ice. This concrete, expoſed for ſome time to the air, imbibes moiſture and becomes fluid: it may likewiſe be melted down from the neck of the retort by cautiouſly applying a live coal, and afterwards rendered permanently fluid by diſtillation ‡ in another retort: when liquefied in the firſt way, it is ſomewhat leſs corroſive than in the other. The London college, in their laſt diſpenſatory, have directed a more ſimple method of making this preparation, which is,

‡ Cauſticum antimoniale *vulgo.* Butyrum antimonii *Ph. Ed.* Antimonium muriatum *Ph. Lond.*

(a) Stahl, *menſ. Decemb. Opuſc. p.* 505.

by putting gradually a mixture of one pound of powdered crocus of antimony and two pounds of dried ſea ſalt, to one pound of pure vitriolic acid in a retort, and diſtilling with a ſand heat. The matter that comes over is to be expoſed ſeveral days to the air in order to deliqueſce, and then poured off clear. The uſe of this butter, as it is called, is for conſuming fungous fleſh, and the callous lips of ulcers: it acts exceeding quickly, producing an eſchar, which, as Boerhaave obſerves, generally ſeparates the ſame day it is formed.

Mercurius vitæ.

The butter, diluted with a large quantity of water, grows milky, and depoſites its metal, intimately combined with a portion of the concentrated acid, in form of an exceeding white powder. The powder, repeatedly waſhed with water, becomes inſipid, but ſtill retains a portion of the acid, and operates, in the doſe of two or three grains, as a moſt violent and dangerous emetic.

Bezoardicum minerale.

Spirit of nitre dropt into butter of antimony, ſo long as it occaſions any efferveſcence, forms with the marine acid of the butter an aqua regia, which keeps the metal perfectly diſſolved. If this ſolution be committed to diſtillation, the marine acid comes over firſt, and a little of the nitrous after it: the reſt of the nitrous acid may be totally expelled from the remaining powder, by calcining it in a crucible for half an hour or more with a ſtrong red heat. Spirit of nitre, poured on the mercurius vitæ, in like manner expels the marine acid, and is itſelf expelled by fire. The calces thus obtained, though formerly looked upon as medicines of great virtue, are equally inactive with thoſe, which are more compendiouſly prepared by deflagrating crude antimony with thrice its weight of nitre.

After the diſtillation of the butter of antimony, there remains in the retort a black powder, compoſed of the mercury of the ſublimate and the ſulphur of the antimony. This, like the ethiops made from mercury and ſulphur directly, on being urged with a red heat, ſublimes into a cinnabarine maſs, generally darker than the common cinnabar, and ſomewhat of a needled ſtructure. It has been ſuppoſed that this cinnabar participates of the metallic matter of the antimony; but experiment ſhews that it does not, and that its difference from common cinnabar conſiſts wholly in its containing a larger proportion of ſulphur. Common cinnabar, ſublimed with a little freſh ſulphur, becomes exactly ſimilar to that of antimony; and cinnabar of antimony, ſublimed from a little iron filings, or ſuch other ſubſtances as may detain its ſuperfluous ſulphur, becomes the ſame with common cinnabar.

Cinnabaris antimonii.

Crystals of tartar, boiled in water with the pure regulus, or crocus, or glaſs of antimony, diſſolve a part of the metallic matter, ſmall indeed, but ſufficient to communicate a ſtrong medicinal impregnation: the glaſs is ſaid to diſſolve more eaſily, and in greater quantity, than the other preparations. The college of London directs a pound and a half of crocus of antimony to be boiled with two pounds of cryſtals of tartar, in two gallons of water, for a quarter of an hour; the liquor to be filtered, and after due evaporation ſet by to cryſtallize. The Edinburgh college now directs it to be made in the following manner. Infuſe butter of antimony in water containing as much fixed alkali as will precipitate all the antimony. Waſh and dry this precipitate; and boil nine drams

Antimonium tartariſatum *Ph. Lond.*

Tartar. emetic. *ſive* antimon. *Ph. Ed.*

drams of it with two ounces and a half of finely powdered cryſtals of tartar, till the powders are diſſolved. Strain the ſolution, evaporate to a pellicle, and ſet it to cryſtallize.

Vinum Antimon. Tartar. *Ph. Lond.* Vin. e Tartaro Antimon. *Ph. Ed.*

A vinous ſolution of this ſalt is now directed by both colleges; that of London ordering forty grains to be diſſolved in two ounces of boiling water, after which, eight ounces of mountain wine are to be added; and that of Edinburgh preſcribing twenty-four grains of the ſalt to a pound of the wine.

The total evaporation of the fluid appears the beſt way of ſecuring uniformity of ſtrength to the medicine: for as only a part of the tartar is ſaturated with the metal, and as the part thus ſaturated is more ſoluble than the reſt, ſome of the unſaturated tartar is apt, in cryſtallization, to ſhoot by itſelf. The ſolubility of the compound affords one of the beſt means for eſtimating its ſtrength, or the degree of its impregnation with the antimony. Dr. Saunders relates (a) that an ounce of cold water, about the middle temperature of the air, diſſolved, of ſome of the common emetic tartars of the ſhops, not thirty-two grains, or one fifteenth its own weight; whereas, of a well ſaturated ſort, which he had himſelf prepared by long boiling, the ſame quantity of water diſſolved fifty-two grains, or near one ninth its weight. Perhaps the moſt certain way of obtaining a ſaturated and uniform preparation of this kind would be, to digeſt the common emetic tartar in eight times its weight, or leſs, of cold water, and evaporate the filtered yellow ſolution to dryneſs: or to continue the boiling of the glaſs of antimony and tartar for twelve hours or longer, adding water enough occaſionally to keep the tartar always diſſolved, and at length to let the water waſte ſo far, as not to exceed eight times the quantity of the tartar employed, after which the liquor is to be ſuffered to cool, and then filtered and evaporated.

(a) *Diſſertatio medico-chemica inaugural. de antimonio, p.* 44.

This preparation is one of the beſt of the antimonial emetics; as containing the active part of the antimony, made ſoluble by a mild vegetable acid, which does not, like thoſe of the mineral kingdom, communicate any degree of corroſiveneſs: the doſe is from two or three to ſix or eight grains. It may be given alſo as an alterative or diaphoretic, in doſes of a quarter of a grain or half a grain or more; and added, in the quantity of a grain or two, as a ſtimulus to the milder vegetable cathartics. It is ſaid that caſia diminiſhes the power of this medicine, but probably on no good foundation.

Vinum antimoniale *Ph. Lond.* & *Ed.*

Moſt ſorts of vinous liquors contain ſo much acid, as to extract, in a ſhort time, a ſtrong impregnation, from the antimonial metal. The college of London directs an ounce of glaſs of antimony to a pint and a half of mountain; that of Edinburgh, the ſame quantity of the glaſs to fifteen ounces by weight. It does not appear, that theſe or much greater differences in the quantities, affect the ſtrength of the preparation; the ſame glaſs being ſufficient to impregnate many freſh portions of liquor. Theſe tinctures have been chiefly uſed, in the quantity of half an ounce or an ounce, as ſtrong emetics: in ſmall doſes, as thirty to ſixty drops, they act commonly as diuretics or diaphoretics. A caſe is related in the Edinburgh Eſſays, vol. II. in which the whey made with a gill and a half of antimonial wine produced ſleepineſs without vomiting. The curd had the ſame effect.

The virulence of ſome of the antimonials is greatly abated, by intimately mingling them with wax or reſins. Powdered glaſs of antimony, injected into one eighth its weight of melted bees wax, over a gentle fire, and kept conſtantly ſtirring for half an hour, becomes ſo mild, that when given from two or three grains to twenty, it occaſions for the moſt part only a few ſtools, or a ſlight nauſea or ſickneſs, and ſometimes produces no ſenſible evacuation. This preparation has for ſome time been celebrated in dyſenteries: ſeveral inſtances of its good ſucceſs in theſe caſes are related in the fifth volume of the Edinburgh medical eſſays.

Vitrum antimonii ceratum *Ph. Ed.*

From the foregoing review of the antimonial medicines, it appears, that the ſeveral preparations of this mineral, the cauſtic butter excluded, differ from one another only in degree of activity; and that the greater number muſt vary in ſtrength, from ſmall and unheeded variations in the manner of preparing them. And indeed, though their real qualities ſhould be always the ſame, they may nevertheleſs operate with different degrees of force; from the juices in the firſt paſſages, or the food taken during their uſe, occaſioning more or leſs to be diſſolved. Sometimes the milder preparations, and even crude antimony itſelf, have, from acid foods, proved ſtrongly emetic; and ſometimes the more active have lain for a time indolent in the body, and afterwards, on taking the ſlighteſt acids, ſuddenly exerted unexpected violence. Tinctures of the pure metallic part in mild vegetable acids appear to be the moſt ſafe and certain of all the antimonials; and capable of being ſo managed, as to anſwer all the ſalutary purpoſes that can be rationally expected from any preparation of this mineral; what is effected in the others, by rendering the metal more or leſs ſoluble, being here obtained, with much leſs uncertainty, by giving actual ſolutions of it in larger or ſmaller doſes. Whether the wine, recommended by Huxham, or the tartarous ſolution, is the moſt eligible, experience only can determine. It is certain that both of them, as commonly prepared, are very variable in ſtrength; the vinous ſolution, from differences in the degree of acidity, and conſequently in the diſſolving power, of the wine itſelf; the tartarous, from the proceſs being more or leſs ſkilfully performed. We ought therefore, in preſcribing theſe preparations, if we are not well aſſured of their ſtrength, to begin with a ſmall doſe, and gradually increaſe it according to the effect.

APARINE.

APARINE vulgaris C. B. Philanthropus. GOOSEGRASS OR CLEAVERS: a ſlender, rough, annual plant, ſpreading upon buſhes and ſticking to whatever it touches; with four-ſquare, brittle, jointed ſtalks; oblong narrow leaves, ſet in form of a ſtar, about eight at a joint; and ſmall whitiſh bell-ſhaped flowers, followed by little round burs.

THE leaves and ſtalks of aparine yield upon expreſſion a large quantity of turbid green juice, which when depurated becomes clear and reddiſh. The leaves in ſubſtance have no ſmell, and very little taſte: the juice alſo, in its dilute ſtate, ſeems little more than watery and herbaceous; but when inſpiſſated to the conſiſtence of an extract, it affects the organs of taſte ſtrongly, though only momentarily, with a pungent ſaline bitterneſs.

The juice of this herb has been given, in doſes of two or three ounces, as an aperient in obſtructions of the viſcera, and as a diuretic in hydropic caſes and ſuppreſſions of urine. *This medicine came into great vogue for ſcorbutic complaints a few years ago, in conſequence of a letter printed in the news-papers. It was found in ſeveral caſes to have a conſiderable effect, probably merely as a freſh vegetable juice, as its viſible operation manifeſted very little activity. It ſeems now to be again fallen into neglect.

APES.

BEES. This inſect, dried and powdered, has been given internally as a diuretic, and applied externally (ground with honey or other like ſubſtances) for promoting the growth of hair. Some have ſlightly calcined the bee, in a cloſe veſſel, to blackneſs, and eſteemed it, when thus prepared, to be a medicine, in ſome caſes, of more virtue; a ſaline matter being now in good meaſure generated by the fire, though not as yet extricated from the other principles.—For my own part, I have had no experience of the bee itſelf prepared or unprepared, nor is it uſed in practice: the valuable products, which this inſect affords, honey and wax, will be treated of in their places.

APIUM.

APIUM paluſtre & apium officinarum C. B. Eleoſelinum. Apium graveolens Linn. SMALLAGE: an umbelliferous plant, with bright green winged leaves, cut ſlightly into three roundiſh portions, ſerrated about the edges: the ſeeds are ſmall, oval, plano-convex, furrowed, of a pale browniſh or aſh colour: the root long, about the thickneſs of the finger, furniſhed with a number of fibres, of a pale yellowiſh colour on the outſide, and white within. It is biennial; flowers in Auguſt; grows wild in rivulets and watery places; and is frequently cultivated in gardens.

A poiſonous plant, the *cicuta aquatica* or water hemlock, which grows naturally in the ſame places with wild ſmallage, has been ſometimes miſtaken for it. This may be diſtinguiſhed, by its leaves being deeply divided, quite to the pedicle, into three long narrow ſharp pointed ſegments; whereas thoſe of ſmallage are only ſlightly cut into three roundiſh obtuſe ones.

The freſh roots of ſmallage, eſpecially when produced in its native watery places, are ſuppoſed to participate, in ſome degree, of the ill quality of thoſe of the hemlock kind, and to be particularly hurtful to epileptic perſons and pregnant women. They have an unpleaſant ſmell, and a bitteriſh ſomewhat acrid taſte, weaker than thoſe of the roots of the *cicuta*, but ſo much of the ſame kind, as to countenance the ſuſpicion, that the freſh roots of wild ſmallage, if taken in conſiderable doſes, may not be entirely innocent. By drying, they loſe greateſt part of their ill flavour, and become ſweetiſh: the poiſonous quality of the *cicuta* alſo is ſaid to be abated by exſiccation.

The dry roots of ſmallage have been employed, in apozems, as aperients and diuretics, in conjunction commonly with the other aperient roots. They give out their virtue, together with a pale yellow colour, both to watery and ſpirituous menſtrua. On evaporating the watery infuſion, the flavour of the root exhales, and the remaining extract proves unpleaſantly ſweetiſh. The ſpirituous tincture, inſpiſſated, yields an extract, ſomewhat ſweeter and leſs ungrateful than that made with water, and of a ſlight warmth or pungency: the ſmell of the root, which is pretty ſtrong in the watery infuſions, is in good meaſure covered by ſpirit both in the tincture and extract.

The ſeeds of ſmallage have been ſometimes uſed as carminatives and aperients, and appear to be poſſeſſed of greater virtues than the root. They have a moderately ſtrong grateful ſmell, and a warm bitteriſh taſte. Infuſed in water, they impart to it very little of their flavour: diſtilled with water, they yield a ſmall quantity of eſſential oil, of a very pungent taſte, ſmelling ſtrongly and agreeably of the ſeeds: the remaining decoction is unpleaſantly bitteriſh. They give out the whole of their taſte and ſmell to rectified ſpirit, and tinge the menſtruum of a yellowiſh colour: the ſpirit, diſtilled off from the filtered tincture, has very little of the flavour of the ſeeds: the remaining extract is a moderately warm, pungent, bitteriſh aromatic.

THIS plant has been greatly improved, by culture, in the ſouthern parts of Europe, and thence received in our gardens under the name of celery, *apium dulce celeri italorum Tourn.* In this ſtate, it is much paler coloured, quite white towards the roots, of a pleaſant ſweetiſh ſomewhat warm taſte, without any thing of the ill flavour of the roots and leaves of common

ſmallage.

ſmallage. Ray obſerves, that, if neglected for a few years, it degenerates into ſmallage again.

The roots of celery loſe in drying about two thirds of their weight: the matter which exhales appears to be mere water. The dried roots, digeſted in rectified ſpirit, with a heat a little below boiling, ſoon give out the whole of their active matter, and become inſipid. The tincture, which is of a yellow colour, depoſites, on ſtanding for ſome weeks, a conſiderable quantity of truly ſaccharine white flakes: inſpiſſated, it yields a whitiſh extract, of a grateful warm aromatic ſweetneſs. An extract made by water is likewiſe conſiderably ſweet, but has nothing of the aromatic warmth of the ſpirituous extract.

The ſeeds of celery are much inferiour in aromatic flavour to thoſe of ſmallage; and the ſeveral preparations of them are proportionably weaker and leſs grateful: the eſſential oil, in which the taſte and flavour are concentrated, is far leſs pungent than the oil of ſmallage ſeeds, and of very little ſmell. Thus one part of the plant degenerates in its quality, in proportion as the other is improved.

A Q U A.

AQUÆ COMMUNES. Aqua nivalis, pluvialis, fluvialis, fontana. COMMON WATERS: ſnow, rain, river, ſpring waters.

IT is needleſs to obſerve, how much the purity of waters is conducive to health; and how greatly, though by inſenſible degrees, the human body muſt neceſſarily be affected, by minute quantities of inſalubrious matters in this univerſal diluent, and vehicle of all our aliment.

Among the common teſts of the purity of water, the leaſt fallacious are, its being perfectly colourleſs, tranſparent, and void of ſmell and taſte; its diſſolving ſoap into a ſmooth lather; boiling pulſe tender; not changing the colour of ſyrup of violets or the juices of other blue flowers; and its mingling with alkaline and with acid liquors, with ſolution of ſulphur in alkalies, and ſolution of ſilver in the nitrous acid, without precipitation or change of tranſparency. Theſe trials ſerve to diſtinguiſh, in moſt caſes, whether waters contain any conſiderable quantity of foreign matters, but what the particular matters are, they never can diſcover, different ſubſtances exhibiting, in the ſeveral experiments, ſimilar phenomena: thus blue juices are changed red by alum as well as by acids, and green by the calcareous marine ſalt as well as by alkalies.

To determine, with any degree of preciſion, the contents of waters, a quantity of the water is to be evaporated, in clean glaſs veſſels, with a heat ſcarcely exceeding that which the hand can ſupport; that the ſolid contents may be procured by themſelves, with as little danger as poſſible of the extrication or tranſpoſition of any of their principles. The dry matter being digeſted in a little pure diſtilled water, a ſaline ſubſtance is commonly extracted by the water, and an earthy one is left, no longer diſſoluble in aqueous menſtrua.

The earthy matter is commonly not one ſimple earth, but a combination of two or more: 1. *aluminous earth*, diſtinguiſhed by its diſſolving in the vitriolic acid into an auſtere liquor; 2. *magneſia*, diſſolving in the ſame acid into a bitter liquor; 3. *calcareous earth*, not diſſolving at all in the vitriolic acid, but readily in the nitrous and marine, from both which it is precipitated by the vitriolic; 4. *ſelenites*, not diſſoluble in any acid, till ſtrongly calcined in contact with burning fuel, by which proceſs it is reduced to calcareous earth; 5. ſome of the abſolutely *indiſſoluble* earths, whoſe particular ſpecies, in the ſmall quantities wherein they are obtained in theſe kinds of experiments, it is difficult and of little importance to determine. The two firſt are rarely met with in the reſidua of waters; the others are frequent, perhaps univerſal.

The ſaline ſubſtances are; the mineral fixt alkali, *natron*; the vitriolic acid, combined with this alkali into *ſal mirabile*, or with magneſia into *ſal catharticus*, or with the aluminous earth into *alum*; the nitrous acid, combined with the alkali into *nitre (a)*, or with ſome of the ſoluble earths into *nitrous ſalts*; the marine acid, combined with the alkali into *common ſalt*, or with ſoluble earths into *muriatic ſalts*; or a *volatile alkali* combined with the acids into *ammoniacal ſalts* (ſee the reſpective ſalts) * *(b)*.

The

(a) Leigh, *natural hiſt. of Lancaſhire, &c. p.* 39.

* *(b)* Another medium by which mineral ſubſtances may be rendered ſoluble in water is *fixable air*, or *gas*. This matter is found to be contained in large quantity in many mineral waters, particularly ſuch as are diſtinguiſhed by a briſk ſharp taſte, and the property of ſparkling when poured out. From ſome experiments of the Hon. Mr. Cavendiſh (*Philoſ. Tranſ. Vol. LVII.*) it was found, that calcareous earth could be diſſolved in water impregnated with fixable air; and it appeared probable, that this combination actually takes place in the compoſition of Rathbone-place water. Mr. Lane, in *Vol. LIX.* of the *Philoſ. Tranſ.* has proved by experiment, that the ſame kind of gas will render iron ſoluble in pure water, without any other addition; whence it may be concluded with ſufficient probability, that a part at leaſt of the iron in the chalybe-

ate

The common, muriatic and nitrous ſalts are frequent; nitre, alum, ſal mirabile, and ammoniacal ſalts very rare.

Moſt of theſe ſalts may, by careful cryſtallization, be ſeparated in their proper form: they may likewiſe be diſtinguiſhed, however blended together, by additions. 1. The fixt alkali, unſaturated, is known by its raiſing an effervescence with ſpirit of ſalt. 2. The ſpecies of acid is diſtinguiſhed, by adding to the exſiccated maſs a little oil of vitriol: if the acid is the marine, it will be expelled in white, and if the nitrous, in red vapours; but if it is the vitriolic, no change will enſue. The marine acid may likewiſe be known, by the compound enabling pure aqua fortis to diſſolve gold leaf, or a mark made with gold on a touchſtone; the nitrous, by its deflagrating, when ignited, on the contact of any inflammable matter; the vitriolic, by its precipitating any ſolution of calcareous earth, as of chalk in aqua fortis, and the precipitate being a ſelenites, or not diſſoluble in freſh aqua fortis. 3. The baſis, or ſubſtance combined with the acid in the ſaline compound, is found, by adding to a ſolution

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ate waters of Spa and Pyrmont, which are known to abound with fixable air, is held in ſolution by means of this principle. This ſuppoſition well explains ſeveral of the phenomena of theſe waters; as particularly their ſpeedy decompoſition in the open air, when this very volatile principle is diſſipated. The above concluſions are confirmed by Dr. Brownrigg's experimental inquiry into the nature of the elaſtic ſpirit contained in the Pouhon water and other *acidulæ*. *Philoſ. Tranſ. Vol. LV.* and *LXIV.* In order to detect the preſence of this matter in waters, ſome of the water muſt be boiled in a cloſe veſſel, from which a tube is carried, having a bladder tied to its extremity. The air expelled by the heat will enter the bladder, and may then be examined by the proper teſts of fixable air. Vid. *Aer fixus.*

of the matter, a little ſolution of ſalt of tartar, or any other fixt alkaline ſalt: if the baſis is a fixt alkali, no change will enſue; if an earth, it will precipitate; if a volatile alkali, a pungent ſmell will diſcover it.

The pureſt of the common waters is that of ſnow, carefully collected on the tops of mountains, or on an open plain. A gallon, ſlowly evaporated or diſtilled, leaves only two or three grains of ſolid matter. Diſtilled water itſelf leaves nearly as much, upon a ſecond, and upon repeated diſtillations; but with this difference, that the reſiduum of ſnow water, like that of all the other natural ones, is browniſh and ſaline; whereas, that of the diſtilled is a fine white earth, void of ſaline matter, partly calcareous, and partly indiſſoluble. Snow water, kept in a warm place, in clean glaſs veſſels, not cloſely ſtopt but covered from duſt, *&c.* becomes in time putrid; though in well-ſtopt bottles it remains unaltered; I have ſeen ſome, which after keeping for many years was perfectly clear and taſteleſs. Diſtilled water ſuffers no alteration in either circumſtance. The ſaline matter of ſnow water is commonly of the nitrous kind, compoſed of the acid of nitre united with calcareous earth.

The next in purity is rain water, collected with the ſame precautions as the foregoing, after the rain has continued for ſome time, ſo as to clear the air from inſects or other light bodies that may float in it. Neither this water nor the preceding diſcover any heterogeneity on the common trials with acids, alkalies, ſoap, blue vegetable juices, or metallic ſolutions, till great part of the aqueous fluid has been ſeparated by evaporation. Evaporated to dryneſs, it leaves four or five grains of ſolid matter on the gallon. Its ſalt is often nitrous, and its earth in great part calcareous.

The water of limpid rivers ſtands next in purity; and proves, though not equally with the two preceding, yet ſufficiently ſoft, and fit for all the purpoſes of life. Rivers are for the moſt part purer and ſofter than the ſprings from which they are ſupplied; at a diſtance from, than near to the ſource; when their courſe is rapid, than when ſlow.

Of ſpring waters, there are ſome, which approach in purity to that of rain; but the greater number are of all waters the hardeſt and moſt impure. Some, even of thoſe which the eye and palate judge to be good waters, contain above an hundred grains of ſolid matter on the gallon. The ſaline part of theſe waters is moſt commonly nitrous (a) or muriatic, that is, compoſed of the nitrous or marine acids united with earths: on adding to them, by little and little, a ſolution of any alkaline ſalt, the liquor becomes turbid and milky, more and more, till the acid, completely neutralized by the alkali, parts with all the earth, which on ſtanding ſettles to the bottom. The water thus corrected, though really no purer than at firſt, is found perfectly ſoft for œconomical uſes, and much leſs, if at all, detrimental to health; its pungent, auſtere, earthy ſalt, being now converted into a mild neutral one.

River waters generally putrefy ſooner than thoſe of ſprings: during the putrefaction, they throw off a part of their heterogeneous matter, and at length become ſweet again and purer than at firſt. Hard waters are remarkably indiſpoſed to corrupt, and even preſerve putreſcible ſubſtances for a conſiderable length of time: hence, as Dr. Home obſerves, they ſeem to be beſt fitted for keeping at ſea, eſpecially as they are ſo eaſily ſoftened by a little alkaline ſalt.

(a) Home, *experiments on bleaching*. Marggraf, *mem. de l'acad. des ſcienc. de Berlin*, *anno* 1751.

The pureſt waters ſooneſt freeze; hence ice is purer than the water that remains unfrozen: on this principle, vinous and ſome ſaline liquors may be freed from a part of their ſuperfluous water by gentle congelation. Ice, expoſed to the open air, loſes of its weight, its ſuperficial parts being diſſolved or abraded by the motion of the atmoſphere. This property of ice was known to Hippocrates; who, imagining not the ice in its whole ſubſtance, but ſome of its finer and lighter parts to be diſſipated, was hence led unjuſtly to condemn both melted ice and ſnow as the moſt impure of all waters.

With regard to the medicinal powers of pure water, little more can be ſaid, than what is too obvious to require being mentioned. Simple fluidity; univerſal innocence, or the abſence of every quality that can offend the tendereſt organ; miſcibility with all the animal juices, in a ſtate of perfect health, except fat; unfitneſs to dilute or mingle with them when greatly thickened, as in ſome diſeaſes; a diſpoſition to paſs off by the cutaneous pores, more ſpeedily and more plentifully than by the kidneys, in conſequence perhaps of its total want of irritation; make the principal part of its medical character. To which may be added, that it is the moſt commodious medium for applying to the human body the powerful agents, heat and cold; of which the one expands and relaxes, the other contracts and conſtringes, all the fluid and ſoft parts of the animal machine.

AQUÆ MEDICINALES.

THE medicinal or mineral waters participate more or leſs of the earthy and ſaline ſubſtances found in common waters; with generally ſome prevailing ingredient from which they have received their names.

1. AQUÆ ALKALINÆ. Alkaline waters, as that of Tilbury.

The waters of this kind are impregnated chiefly with the mineral alkaline ſalt, and with calcareous earth; both which readily diſcover themſelves in the reſiduum left upon evaporation.

The Tilbury water, one of the ſtrongeſt perhaps of this claſs, has been found ſerviceable, not only in complaints ariſing from acidities in the firſt paſſages, but likewiſe in obſtinate alvine fluxes, ſome cutaneous defedations, female weakneſſes, and other diſorders from a laxity and debility of the fibres: it generally paſſes off freely by urine or perſpiration, and ſometimes, on firſt taking, purges a little. It may be drank to the quantity of a quart a day, or more; cold, or juſt warmed; by itſelf, or with the addition, if requiſite, of milk, with which it perfectly agrees. It does not bear evaporation, or a boiling heat; ſoon growing milky, and depoſiting a part of its earth and virtue. In cloſe veſſels, it keeps well: ſome that had been carried to the coaſt of Guinea and brought back again, appeared to me unaltered in all its properties.

2. Aquæ catharticæ amaræ. Bitter purging waters.

These waters are diſtinguiſhed by their bitter taſte; and by their depoſiting, on the addition of alkaline ſalt, a copious white earth, great part of which is found to be magneſia. The dry matter, left upon evaporating them, conſiſts of the *ſal catharticus amarus*, intermixed with different earths, and often a ſmall proportion of other ſaline matters. The quantity of ſalt differs in different waters; ſome yielding ſcarcely two drams, and others an ounce or more on the gallon. One of the ſtrongeſt of the purging waters in this kingdom is that of Jeſſop's Well near Kingſton, of which a pint left on evaporation ſeventy-two grains; Kilburn and Cheltenham waters yielded ſixty-four grains; Acton, not fifty; and that of Epſom, leſs than forty.

Theſe waters are mild and gentle purgatives, operating with ſufficient efficacy, yet in general with eaſe and ſafety; rarely occaſioning any gripes, nauſea, or lowneſs. They may likewiſe be ſo managed, as to promote the animal ſecretions in general, and prove excellent aperients and attenuants in ſundry chronical diſorders.

The doſe of theſe waters, as a purgative, is from one to three pints, according to their ſtrength, to be drank by a little at a time. Their virtue may be increaſed, by diſſolving in the water ſome of the purified ſalt, or other purgative ſaline ſubſtances, as the artificial ſalt of Glauber, ſoluble tartar, Rochelle ſalt, or manna: additions of this kind are more eligible than boiling down the water, as its ſtrength is augmented in a more certain ratio, and its natural conſtitution preſerved entire. To render the liquor more acceptable to the palate and ſtomach, ſome grateful diſtilled water, or aromatic tincture, as the *tinctura cardamomi*, may be added: it has been cuſtomary to infuſe or boil in the water ſome aromatic ſeeds, as thoſe of caraway: but very little of the virtue of the ſeeds is by this treatment communicated to the water. Their taſte is excellently covered by honey. As alterants, the water may be uſed for common drink; diluted with ſimple water, milk, whey, wine, or other liquids, ſo as but juſt to keep the belly open.

Theſe waters are found to purge more in their natural ſtate, than after they have been boiled, and than the ſalt obtainable from an equal quantity of them.—They contain, beſides the purging ſalt, no ſmall proportion of calcareous earth. Now, if a ſolution of calcareous earth, made either in pure water or in acids, be mixed with a ſolution of the purging ſalt, and the liquor evaporated; great part of the ſalt will be deſtroyed, its acid being transferred from its own earth into the calcareous earth, and forming, with this, a concrete neither purgative nor diſſoluble, namely ſelenites. As ſuch a concrete is found in the dry reſidua of the purging waters, we may preſume, that it owes its origin, as in this experiment, to the deſtruction of a part of the purgative ingredient; and that the water holds naturally a greater quantity of ſalt, than can be extracted from it by art.

3. AQUA MARINA. Sea water.

Sea water contains, beſides the common alimentary ſalt, a portion of bitter purging ſalt, ſimilar to that of the foregoing waters, and which remains diſſolved after the common ſalt has cryſtallized. After the purging ſalt alſo has been ſeparated, there remains a ſmall portion of a pungent ſaline liquor, which refuſes to cryſtallize, and which appears to be a ſolution of calcareous earth in the marine acid. The quantity of ſalt in different ſeas varies, according to the greater or leſs evaporation, and acceſſion of freſh water, from about one fiftieth to near one twentieth of the weight of the water.

Sea water has lately come into eſteem, againſt ſtrumous ſwellings and obſtructions of the glands, and different cutaneous foulneſſes. Dr. Ruſſel obſerves, that in the inflammatory ſtate of glandular ſwellings it is improper; that where the tumor tends to ſuppuration, it does no good till the pus is diſcharged; that in other circumſtances it is a remedy of great ſervice, whether for reſolving the tumor, or preventing a freſh fluxion upon the part; and that it is uſeful in diſorders of the internal glandulous parts, as thoſe of the meſentery, the liver, *&c.* as well as in thoſe of the external. It has been given alſo in the true marine ſcurvy, and found to promote the cure; though incapable of conquering the diſeaſe without aſſiſtances from the vegetable kingdom.

The doſe of ſea water is from half a pint to a pint, which may be repeated every morning for ſome months. In theſe doſes, it gently purges the belly, promotes alſo the other excretions, and ſomewhat warms and ſtrengthens the habit: in large ones, it excites vomiting. In many caſes, bathing in the water is advantageouſly joined; both as a general corroborant, and as a topical diſcutient and antiſeptic.

This water, at firſt taking, is apt to occaſion great drought; an inconvenience which is ſeldom much complained of after its uſe has been continued for ſome time, and which may in good meaſure be palliated by ſleeping immediately after it is drank. It is apt likewiſe, in ſome conſtitutions, to produce immoderate heat; and even when uſed only externally, an uneaſineſs and itching of the ſkin: it is therefore to be refrained from in all inflammatory caſes, and in habits prone to phlogoſes. Among all the common ſaline bodies, to heat and to dry ſeem to be qualities peculiar to the marine ſalt.

4. Aquæ chalybeatæ. Chalybeate or ſteel waters; as thoſe of Spa, Pyrmont, Tunbridge, Iſlington, *&c.*

These waters diſcover their being impregnated with iron, by ſtriking a blue colour with a ſolution of fixt alkaline ſalts that have been calcined with animal coals, or with a tincture made by digeſting the pigment called Pruſſian blue in volatile alkaline ſpirits: this laſt preparation is preferable to the other, as it may be ſaturated more completely with that matter which tinges diſſolved iron blue.

Iron in waters is diſcovered alſo by the purpliſh, bluiſh, or blackiſh colour, which they aſſume on the addition of certain vegetable aſtringents, among which powdered galls are the moſt eligible. This laſt method of trial, which is that commonly made uſe of, diſtinguiſhes as minute proportions of iron as the firſt, provided the liquor contains no more acid than is ſufficient to keep the metal diſſolved; but if the quantity of acid is very large, aſtringents give no notice of the iron, whereas the tincture of Pruſſian blue diſcovers it univerſally.

Chalybeate waters appear to differ from one another, not only in the degree, but in the ſpecies, of their impregnation.

Some reſemble a ſolution of vitriol of iron made in common ſpring water. Like that ſolution, they ſtrike a blue or black colour with galls, depoſite on ſtanding ſome of their iron in an ochery form, but retain great part of it for a length of time, and yield on evaporation a ſaline matter, which communicates a ferrugineous impregnation to freſh water, and which appears to be a true vitriol of iron. From ſome waters, as that of Hartfell in Scotland, the vitriol has been cryſtallized *(a)* in its proper form.

Others reſemble a ſolution of the ſame vitriol with an admixture of natron or the mineral fixt alkaline ſalt. Like ſuch a mixture *(b)*, they ſtrike, when freſh, a purple colour with galls, depoſite the whole of their iron in a very little time, and yield on evaporation, not a vitriol or chalybeate ſalt, but a ſalt compoſed of the acid of vitriol and alkali: ſome, as that of Geronſterre at Spa, yield alſo a little pure alkali *(c)*, beſides what is ſatiated with acid. It may be obſerved, that in artificial mixtures of alkalies with ſolutions of vitriol, or other metallic ſolutions

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(a) *Edinb. eſſ. and obſ. phyſ. & lit.* i. 346.

(b) That an alkaline addition is neceſſary, to make ſolutions of vitriol ſtrike with galls the purple colour that chalybeate waters do, is a diſcovery of Mr. Reynolds, *exper. on a chalybeate water near Bromley in Kent.*

(c) Rutty, *ſynopſ.* 323.

tions made in acids, (and poſſibly ſomething of the ſame kind may obtain alſo in the natural,) if the veſſel is immediately ſtopt, ſo as to have no vacuity after the inſtant of mixture; the acid and the alkali have no action on one another ſo long as they are kept confined, that is, ſo long as the extrication of air, the common concomitant of their mutual action, is prevented: but as ſoon as the veſſel is opened, or the contained air has an opportunity of eſcaping, the alkali begins to abſorb the acid, a ſparkling or effervеſcence enſues, greater or leſs in proportion to the quantities of the two, and the metal, thus diveſted of its acid ſolvent, precipitates *(a)*.

It is not however to be preſumed, that the ſpeedy ſeparation of the ferrugineous matter of waters is owing univerſally to an alkaline precipitant. Solutions of pure vitriol in pure water depoſite a part of their iron ſpontaneouſly; and if the ſolutions be ſo far diluted, as to ſtrike with aſtringents a colour little more than perceptible, they will loſe ſo much in a few hours as to exhibit with the ſame aſtringents no tinge at all.

In general, a blue or black colour produced with galls may be looked upon as a mark of the abſence of alkaline ſalt; and a purple, as a mark that either the water originally contained an alkali, or has become alkaleſcent or verging to putrefaction by ſtanding. On the ſame principle, a degree of alkaleſcence, or of tendency to corruption, in common waters, very far too minute to be ſenſible on any other known trial, may be made conſpicuous; *viz.*

(a) A diſcovery of Mr. Scheffer, *Suenſka vetenſk. acad. handl.* 1753.

by the water, when impregnated with a little vitriol, as a grain or two to a pint, ſtriking a purple colour with galls.

The ſpontaneous ſeparation of the iron, which happens in many of the chalybeate waters, and which, though it may be retarded, cannot be prevented by any care in ſtopping the bottles, after the waters have been once expoſed to the air, renders them unfit for long keeping or carriage. A ſmall addition of any acid prevents the ſeparation, even in thoſe whoſe virtues are naturally the moſt fugitive: it is ſuſpected, that the chalybeates brought from Germany have commonly this artificial impregnation.

Theſe waters are uſed, like other chalybeates, in debilities and laxities of the ſtomach, chylopoietic organs, and of the viſcera in general; in decays of conſtitution; in cachectic, chlorotic, and other like indiſpoſitions. Where they paſs freely, they are accounted more invigorating than the artificial preparations of iron, and leſs liable to diſorder particular conſtitutions: many of them however are more apt to fail of taking due effect, on account perhaps of the acid ſolvent being more diſpoſed to quit the metal. Some of them are rarely obſerved, and ſome ſcarcely ever, to give any black tinge to the feces, though drank in large quantity; a phenomenon which may perhaps be aſcribed to their depoſiting their iron in the firſt paſſages in an indiſſoluble and inactive ſtate, rather than to the cauſe which ſome have aſſigned, their carrying it entire into the blood. They are taken to the quantity of two or three pints or more in a day, divided into different doſes; and require the ſame caution in their uſe as the artificial chalybeates.

5. Aquæ cupreæ. Cupreous waters; as thoſe of Neuſol in Hungary, and Wicklow in Ireland.

These waters, which are little other than a ſolution of vitriol of copper, and thoſe which contain a much ſmaller proportion of that metal blended with vitriol of iron and other ingredients, betray their cupreous impregnation, by ſtaining a poliſhed iron, immerſed in them, of a copper colour, and by ſtriking a blue with volatile alkaline ſpirits. Some of them have been uſed, like other venereal ſolutions, as external detergents. Some, more ſlightly impregnated with the copper, have been taken internally as emetics, purgatives, and deobſtruents; a practice which appears much too hazardous to be followed.

All the mineral waters we know of, are impregnated with more or fewer of the foregoing ingredients, combined in various proportions. The hot waters called *thermæ* or baths, have not, as ſuch, any peculiar impregnation; their heat depending, not upon an intrinſic, but an external cauſe: the hot ſprings of Tœplitz in Germany appear, from Hoffman's experiments upon them, to be no other than ſimple water. Of the waters called ſulphureous, or thoſe which have a fetid ſmell reſembling that of ſulphureous ſolutions, there are ſeveral which do not ſeem to contain any actual ſulphur: nor is there any actual ſulphur in the extremely fetid and diffuſive vapour, which ariſes from ſolutions of ſulphur itſelf during their precipitation with acids. Analogous to this, perhaps, is the ſulphureous impregnation of certain waters. The nature and medicinal effects of this ſubtile volatile principle are little known; the ſulphureous waters containing, at the ſame time, other active ingredients. There are likewiſe waters which appear to be impregnated with ſulphur in its whole ſubſtance, and which may therefore be preſumed to participate of the virtues of the artificial ſolutions of that concrete.—For the analyſes and uſes of particular waters, the reader may conſult Dr. Rutty's ſynopſis.

AQUILEGIA.

AQUILEGIA Pharm. Pariſ. Aquileia. Aquilina. Aquilegia flore ſimplici J. B. Aquilegia vulgaris Linn. COLUMBINE: a plant with ſlender reddiſh ſtalks, and bluiſh green leaves, in ſhape ſomewhat roundiſh, with ſeveral ſlight indentations, and one or two deep ones. The flower, commonly blue, ſometimes red or white, conſiſts of five irregular petala, each of which is ſuppoſed to reſemble a flying eagle or pigeon (*aquila* or *columba*) whence the names of the plant: the flower is followed by five pods, full of ſhining black oval ſeeds. It is perennial, grows wild in woods, and flowers in June.

THE ſeeds of columbine have been commended, in ſubſtance and in emulſion, as an anthelmintic, as an aperient in the jaundice, and for promoting the eruption of the meaſles and ſmall pox. Their ſenſible qualities afford little foundation for theſe kinds of virtues, as they do not ſeem to differ materially from thoſe of the cold ſeeds ſo called; the columbine ſeeds being only ſomewhat more mucilaginous, and accompanied with ſomewhat of a diſagreeable reliſh.

The virtues aſcribed to a tincture of the flowers, as an antiphlogiſtic, and for ſtrengthening the gums and deterging ſcorbutic ulcerations in the mouth, appear to be better founded; the tincture being made with an addition of the vitriolic acid, and differing little from our officinal tincture of roſes. The flowers themſelves, and the conſerve and diſtilled water of them directed in ſome foreign pharmacopœias, are inſignificant.

ARANEARUM TELÆ.

COBWEBS. Theſe are applied by the common people for ſtopping the bleeding of wounds; which they effect, not by any ſtyptic power, but by adhering to the part, and cloſing the orifices of the veſſels.

ARGENTINA.

ARGENTINA, Potentilla, Anſerina. Pentaphylloides argenteum alatum ſeu potentilla Tourn. Potentilla anſerina Linn. SILVERWEED or WILD TANSY: a low creeping plant, with winged leaves, compoſed of ſeven or eight pair of oblong indented ſegments ſet along a middle rib, with ſmaller portions between, green above, and covered with a ſilver-coloured down underneath; the flowers, which riſe on long pedicles in the boſoms of the leaves, are compoſed, each, of five gold-coloured petals with a number of threads in the middle, and followed by a ſmall cluſter of naked ſeeds. It is perennial; common by the ſides of rivulets and in moiſt uncultivated places; and flowers in June.

THE leaves of *argentina* have been generally looked upon as ſtrong aſtringents, and recommended as ſuch in fluxes and hæmorrhages.

That they have an aſtringent quality is manifeſt to the taſte, and from their ſtriking a black colour with ſolutions of chalybeate vitriol: but in the leaves in ſubſtance, whether freſh or dry, and in their infuſions, decoctions, and expreſſed juice, the preparations which have been generally made uſe of, the aſtringency is very weak; and even the extracts made from them, by water and by rectified ſpirit, in which all their active matter is concentrated, are only among the milder ſtyptics or corroborants. The ſpirituous extract is ſtronger than the watery, and in proportionably ſmaller quantity.

ARGENTUM.

ARGENTUM Pharm. Lond. & Edinb. SILVER: a white metal; becoming yellow, and at length black, from the vapour of ſulphureous ſolutions and of putrefying matters; extremely malleable; near eleven times ſpecifically heavier than water; fuſible in a bright red heat; fixt and indeſtructible in the fire; ſoluble, in the nitrous acid, into a limpid liquor, which ſtains the ſolid parts of animals black; not ſoluble, by moderate digeſtion, in the marine or vitriolic acid; precipitable by theſe acids from its ſolution in the nitrous.

The greateſt quantities of this metal are found in the mines of Chili and Peru; commonly in ſmall grains and filaments, embedded in different earths and ſtones; from which it is ſeparated by pulverization, ablution with water, and amalgamation with mercury. Several mines in England, Germany, and other parts of Europe, afford ſilver; rarely native, or in diſtinguiſhable maſſes; commonly reduced to a ſtate of ore, of a red, or of a yellow or brown, or of a duſky leaden or black colour, by an intimate admixture of arſenic, or ſulphur, or both; from which it cannot be extracted by quickſilver, but which are diſſipated by calcination, ſo as to leave the ſilver ſeparable from the remaining earth by fuſion.

Crude ſilver, however comminuted or attenuated, has not been obſerved to produce any medical effect; though abundance of virtues were aſcribed to it by the credulity of former times. It is not ſoluble in any of the fluids of the animal or vegetable kingdom.

It diſſolves, by the aſſiſtance of a moderate heat, in about twice its weight of pure aqua fortis: the ſolution, duly exhaled and ſet in the cold, cryſtallizes into thin colourleſs tranſparent plates. The cryſtals, or the dry matter left upon inſpiſſating the ſolution, melt in a moderate fire, and on cooling form a dark coloured cauſtic maſs. This preparation is in common uſe for conſuming warts and calloſities; but is leſs fit for ſuch purpoſes as require a conſiderable quantity to be applied, as the laying open of impoſthumations, being apt to liquefy by the moiſture of the ſkin, and ſpread beyond the limits in which it is intended to operate. For the greater conveniency of uſing, it is caſt into oblong ſlender pieces, either in iron pipes heated and greaſed, or in holes made by ſome ſmooth inſtrument in a lump of tempered tobacco-pipe clay: each piece is wiped clean, and wrapt in dry ſoft paper. The matter is to be poured out as ſoon as it flows thin: if kept a little too long in fuſion, it becomes too thick to run into the mould, and parts with ſo much of its acid as not to be ſufficiently corroſive: by a longer

Argent. nitratum *Ph. Lond.*
Cauſticum lunare *Ph. Ed.*

continuance of the fire, all the acid is gradually diſſipated, and a lump of pure ſilver remains.

A preparation ſomewhat leſs cauſtic than the foregoing, is recommended internally by Angelus Sala, Boyle, and others, as an anthelmintic, and as a purgative in hydropic and inveterate ulcerous diſeaſes. For this purpoſe, the cryſtals of ſilver are diſſolved in water, and mingled with a ſolution of equal their weight of nitre: this mixture is evaporated to dryneſs, and the reſiduum calcined with a gentle heat, juſt not ſufficient to melt it, and kept continually ſtirring, till no more fumes ariſe. Boerhaave aſſures us, that two grains of this preparation, made into pills with crumb of bread and a little ſugar, and taken on an empty ſtomach, ſome warm water ſweetened with a little honey being drank immediately after, purge gently without griping, and bring away a large quantity of water almoſt without the patient's perceiving it. He nevertheleſs cautions againſt the too liberal or continued uſe of this medicine, and obſerves, that by its corroſive quality it weakens the bowels, particularly the ſtomach, and that therefore proper corroborants, as rob of juniper berries, ought to be interpoſed. Even with this aſſiſtance, however, it is at beſt a dangerous medicine, and as ſuch deſervedly ſtands excluded from practice.

Pilula lunaris.

ARGENTUM VIVUM.

HYDRARGYRUS Pharm. Lond. Hydrargyrus, Argentum vivum, Mercurius, Pharm. Edinb. MERCURY OR QUICKSILVER: an opake ſilver-coloured metallic fluid, appearing to the eye like melted lead or tin; about fourteen times heavier than an equal bulk of water; not congealable by the greateſt known degree of natural cold *(a)*; totally exhaling, by a heat below ignition, in ſubtile fumes, which condenſe into running mercury again.

Quickſilver is ſometimes found in the earth in its fluid form, and is then called *virgin* mercury; but for the moſt part it is intimately blended with ſulphur or earthy matters into a ſtate of ore. The ſulphureous ores are of a more or leſs beautiful red colour; the earthy or ſtony ones, grey, yellowiſh, brown, leaden coloured, *&c.* From theſe laſt, the metallic fluid is extracted by ſimple diſtillation: the ſulphureous require an addition of quicklime, iron filings, or ſome other ſubſtance that may abſorb and keep down the ſulphur, which otherwiſe would riſe in conjunction with the mercury. The principal mines of quickſilver, of which we have any account, are in Spain, Hungary, and the province of Friuli in the Venetian territories: conſiderable quantities are brought alſo from the Eaſt Indies.

This fluid, ſuppoſed by the Greeks to be poiſonous and corroſive, was introduced into medicine by the Arabians, as an ingredient in external applications, againſt different cutaneous maladies. This practice was followed by ſome phyſicians in Europe towards the end of the thirteenth century, but was not eſtabliſhed,

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(a) It is ſaid, that in ſome late experiments made at Peterſburg, with very intenſe degrees of artificial cold, (produced by mixing ſnow and ſpirit of nitre ſeparately brought to great coldneſs,) pure mercury congealed into a ſilver-like malleable metal, which quickly melted again on an abatement of the cold; and that in Fahrenheit's thermometer, it ſunk, before its congelation, to between three and four hundred diviſions below 0; that is, about as far below the point at which water freezes, as the heat, in which tin melts, is above it.

or looked upon in general to be ſafe, till about the beginning of the ſixteenth, when the venereal diſtemper, then lately received from America, was found to yield to mercurial applications alone; and now alſo the internal uſe of mercury began to be ventured on, in this and in other diſeaſes.

Pure mercury has no perceptible acrimony, or taſte, or ſmell: there are examples of its having been lodged, for years, in cavities both of the bones and of the fleſhy parts, without having injured or affected them *(a)*. Taken into the ſtomach in the quantity of an ounce or two, it ſoon paſſes through the inteſtinal tube, unchanged, and unfelt: hence ſome have been induced to give a pound or more in violent conſtipations, hoping that this innocent fluid, by its great weight and ſlipperineſs, would force open obſtructions, that had reſiſted the common methods of cure by purgatives, relaxants, and emollients. This practice, ſo far as I can learn, has not been attended with any remarkable ſucceſs; nor do the principles, on which mercury has been given in theſe caſes, appear to be juſt. The ſlipperineſs of this fluid conſiſts only in the mobility of its own parts, not in any power by which it can lubricate the veſſels of an animal. Its weight can be of no uſe, unleſs where the obſtruction lies in ſome deſcending part of the tube: and even ſuppoſing it to act perpendicularly, to the greateſt advantage, there is room to fear, that the preſſure of a pound or two will rather diſtend the ſuperiour part of the inteſtine, than be able to

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(a) Mead, *Mechanical account of poiſons, eſſay* iv.

force a paſſage through the obſtinate obſtructions againſt which it is recommended.

When mercury is reſolved into fume, or altered in its form by fire, or combined with a ſmall portion of mineral acids, or otherwiſe divided into minute particles and prevented from reuniting by the interpoſition of proper ſubſtances; it operates with great power, and extends its action through the whole habit. In theſe forms, whether taken internally, or introduced into the blood from external application, it ſeems to liquefy all the juices of the body, and may be ſo managed as to promote excretion through all the emunctories. If its power is not reſtrained, or determined by additions, it tends chiefly to affect the mouth; and having fuſed the humours in the remoter veſſels, occaſions a plentiful evacuation of them from the ſalival glands, with conſiderable ſwellings, inflammations, and ulcerations of the parts. The ſalivation is accompanied with a diminution of moſt of the other diſcharges, and an increaſe of theſe diminiſhes the ſalival flux.

The ſalutary effects of mercurials have, in many caſes, very little dependence on the quantity of ſenſible evacuation. Venereal maladies, and chronical diſtempers proceeding from a viſcidity of the humours and obſtruction of the ſmall veſſels, are often ſucceſsfully cured by mercurials taken in ſuch doſes as not to produce any remarkable diſcharge; eſpecially if aſſiſted by diaphoretics and a warm diluent regimen. In this view, camphor, and the reſin or extract of guaiacum, are frequently joined to the mercury; and to the more active preparations, a little opium; which not only promotes the diaphoreſis, but prevents the mercury from irritating the firſt paſſages and running off by the groſſer emunctories.

This appears to be, in general, the moſt advantageous method of uſing mercurials; excepting, perhaps, only in venereal maladies of long ſtanding, or ſuch as have ariſen to a great height, or have affected the bones; which demand, for the moſt part, a full ptyaliſm. In theſe caſes, the diſeaſe has been ſubdued for a time by the alterative method; but afterwards broken out afreſh, and been completely cured by ſalivation: and, on the other hand, ſome cutaneous foulneſſes, after reſiſting ſalivation, have yielded to an alterative courſe.

Though mercurials are found to be ſalutary in ſundry cutaneous defedations, and impurities of the blood and juices vulgarly called ſcorbutic; they are always pernicious in the true ſcurvy, and dangerous in conſtitutions inclining to this diſeaſe, where the humours are acrimonious, and colliquated, and diſpoſed to a putreſcent ſtate. In ſuch circumſtances, mercurial medicines are apt to operate with violence: ſmall doſes have occaſioned high and laſting ſalivations. The removal of theſe accidents is to be attempted by glyſters, purgatives, diaphoretics, or ſuch other means, conſiſtent with the patient's ſtrength and the particular ſymptoms, as may procure a ſpeedy revulſion from the ſalival ducts.

A long continued uſe of mercury is in no caſe free from danger, as it manifeſtly colliquates the whole maſs of blood, and tends to weaken the nerves, ſo as to bring on tremors and paralyſes. The miners, and thoſe who are expoſed to the fumes of mercury in extracting it from the ore, are ſaid to be almoſt always, ſooner or later, ſeized with theſe kinds of complaints;

plaints; to become generally in a few years paralytic, and at laſt to die hectic.

Mercurials are deſtructive to inſects, perhaps of every kind. They are ſometimes given internally againſt worms; and ſometimes applied externally, in unguents, for deſtroying cutaneous animalcula. The itch, now reckoned an animalcular diſeaſe, is ſometimes cured by mercurial unguents; which, nevertheleſs, cannot be depended on for this effect, unleſs in ſlight caſes; as their antipſoric efficacy ſeems to reach no farther than thoſe parts of the ſkin to which they are applied, and as they cannot with ſafety be applied freely, to any great extent of the body, particularly of the trunk.

Mercury has been of late recommended as an effectual antidote againſt the poiſon of the mad dog. Several caſes are related, by Dr. James, Deſault, and Du Choiſel, both of brutes and human ſubjects, bitten by mad dogs, being preſerved from the uſual conſequences of this bite, by mercurial unctions, and mercurials taken internally. There are ſome inſtances given alſo of a cure being obtained, by the ſame means, after ſymptoms of madneſs had appeared *(a)*.

THIS fluid diſſolves, by the aſſiſtance of trituration or heat, moſt metallic bodies; retaining its own natural colour, but having its conſiſtence increaſed in proportion to the quantity of the metal: iron is the only one of the common metals, to which it will not eaſily adhere *(b)*. Biſmuth unites with it more intimately

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(a) James, *treatiſe on canine madneſs.*

(b) The other metallic bodies, with which it cannot be united by the uſual methods, are *regulus of arſenic,* and two lately diſcovered metals called, *nickel* and *regulus of cobalt.* See Neumann's chemical works, *p.* 152; *&c.*

mately (*a*) than any other metallic body, and remarkably promotes the union of lead with it: mercury, impregnated with a little biſmuth, was found to diſſolve conſiderable maſſes of lead, in a heat no greater than that of the human body. Caſes ſometimes happen, in which the ſurgeon may probably avail himſelf of this property.

From moſt of the fluid *amalgams*, or mixtures of mercury with metals, great part of the quickſilver may be ſeparated by preſſure through leather; but biſmuth, and mixtures of biſmuth with lead, are ſo intimately diſſolved, as to paſs, in conſiderable quantity, through the leather with it; and hence, with theſe metals, it has been frequently adulterated. This abuſe may be diſcovered, by the mercury contracting a dull coloured ſkin upon the ſurface, or ſtaining paper blackiſh; by its not running freely into round globules, but forming tears or vermicular ſtriæ; by its leaving, upon evaporating a little of it, a powdery matter or a coloured ſpot on the bottom of the veſſel; and by its producing a turbid milkineſs during its diſſolution in aqua fortis.

Quickſilver is commonly purified from theſe and other like admixtures, by diſtilling it in a glaſs or rather iron retort, or in an iron pot, with a head made of one piece, the veſſel commonly uſed for this purpoſe by the refiners, and afterwards waſhing it with vinegar, or with common ſalt and water. The chemiſts,

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(*a*) Though part of the biſmuth ſeparates ſpontaneouſly from the mercury, it does not follow, as ſome have concluded, that the union is imperfect or ſuperficial, but that the mercury can retain only a *certain quantity* of biſmuth; and a certain quantity I have found it to retain after long continued agitation.

ſuſpecting that ſome metallic bodies (a) may be carried up by the mercury in diſtillation, recommend certain additions, particularly ſulphur; which, from its rendering the mercury itſelf leſs diſpoſed to ariſe, may be preſumed to have this effect in a greater degree on the metals that are naturally not volatile: they ſublime the mercury and ſulphur together into cinnabar, which ſee in the ſequel of this article, and adding to this compound ſome iron filings to abſorb the ſulphur, diſtil off the mercury ſuppoſed now to be completely pure. Mr. Malouin recommends uniting the quickſilver with crude antimony inſtead of ſulphur, by leiſurely pouring the mercury heated into an equal quantity of antimony made fluid by fire, and then ſeparating the mercury, as from cinnabar, by diſtillation with iron: the antimony, he ſays, by virtue of its reguline parts, detains the other metallic bodies more effectually than ſulphur can do, and the mercury is thus brought to a ſtate of purity even greater than that of the animated mercuries of the alchemiſts; for the proceſſes, by which they imagined it to be animated or exalted in its powers, appear to have done no more than to purify it to a certain degree. He has not, however, communicated the particular facts on which this aſſertion is built; or given any experimental proofs of the greater purity of mercury diſtilled from antimony, than of ſuch as has been revived from factitious cinnabar, or even of ſuch as has been carefully diſtilled without addition. The London college now direct the diſtillation of quickſilver with iron filings alone.

Hydrargyrus purificatus. *Ph. Lond.*

(a) Boyle, *Of volatility and fixedneſs*, *Abr.* i. 377.

Quicksilver, triturated with powdery or with thick unctuous matters, is gradually divided, and incorporated with them into one uniform compound, in which no particle of the mercury can be diſtinguiſhed by the eye. It is moſt difficultly mixed with earthy powders, moſt eaſily with thick balſams and mucilages.

Killed or extinguiſhed, that is, ground till the mercurial globules diſappear, with one twelfth its weight or more of Venice turpentine, or half that quantity of balſam of ſulphur, it is mingled with plaſters; which, for this purpoſe, are to be melted, and taken from the fire, before the mercury is ſtirred in. The college of London directs the mercury, killed with balſam of ſulphur, to be mixed with four times its quantity of the common plaſter †, or of gum ammoniacum ‡: that of Edinburgh uſes ſix parts of common plaſter, and one each of oil olive and white reſin, to three parts of the quickſilver ‖. Theſe compoſitions are applied as reſolvents and diſcutients, againſt venereal pains, and indurations of the glands; the mercury exerting itſelf in ſome degree upon the part, though it is rarely introduced into the blood in ſuch quantity as to affect the mouth. Aſtruc obſerves, that even by covering all the limbs with mercurial plaſters, the method once practiſed for raiſing ſalivations, it was difficult to obtain a complete and effectual ptyaliſm *(a)*.

† Emplaſtr. lithargyri cum hydrargyro *Ph. Lond.*

‡ Emp. ammon. c. hydrarg. *Ph. Lond.*

‖ Emplaſtr. c hydrarg. ſive cæruleum *Ph. Ed.*

Subſtances of leſs conſiſtence, as ointments, leave the mercury at more liberty to act; and are generally and deſervedly preferred to the plaſters, in the intention of topical reſolvents, *&c.* as well as in that of conveying the mercury into the habit. A dram of quickſilver

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(a) De morbis venereis, tom. i. *lib.* ii. *cap.* 7.

mixed with unguents, well rubbed into the ſkin, and repeated every day, or rather every other day, generally produces, ſoon after the third application, and ſometimes after the ſecond, appearances of inflammation in the mouth, which are followed by a free and copious ptyaliſm: thoſe employed in rubbing the ointments on others, have been ſalivated by the mercury imbibed through the palms. The ptyaliſm raiſed by unction is often more effectual, and accompanied with fewer inconveniencies, than that produced by mercurials taken internally; which laſt are apt, in ſome conſtitutions, to run off by the inteſtines, without affecting the ſalival glands; and in others, to affect the mouth ſo haſtily, as to excite a copious ſalivation without extending their action ſufficiently to the remoter parts. The mercurial ointments are commonly prepared, by rubbing the mercury with lard or other fat matters of a due conſiſtence: three parts of hog's lard, and one of mutton ſuet, make a commodious baſis, with which may be mixed one part or more of mercury †. Or the hog's lard may be uſed in much greater proportion to the ſuet, as twenty-three parts of the former to one of the latter, for an equal weight of quickſilver ‡; which may occaſionally be let down by adding twice its weight of hog's lard ||. As a good deal of labour is required for thus uniting the quickſilver with ſimple fats, ſome are accuſtomed to previouſly extinguiſh it with a little turpentine or balſam of ſulphur; theſe additions, however, particularly the turpentines, are, in this form, accompanied with an inconvenience; being apt, by frequent rubbing, to fret the ſkin.

† Ung. ex hydrarg. ſive cæruleum *Ph. Ed.*

‡ Ung. hydrargyri fortius and

|| mitius *Ph. Lond.*

Mercury is divided alſo, with different materials, for internal uſe, and given, as an alterative and as an anthelmintic, from two or three grains to eight or more. Half a dram of quickſilver is ground, for example, with two ſcruples and a half of prepared chalk. Sometimes alſo purgative materials are joined: the pills called Belloſte's, are ſuppoſed to be a compoſition of this kind. The Edinburgh and London colleges, in their laſt diſpenſatories, have rejected all theſe compound forms. The former direct only a maſs of pills made of quickſilver divided by equal its weight of honey, and afterwards beat up with double the weight of bread-crum and a ſufficient quantity of water. The latter direct the quickſilver to be rubbed with an equal weight of extract of liquorice of the conſiſtence of honey, and made into pills with powder of liquorice.

Hydrarg. cum Creta *Ph. Lond.*

Pil. mercurial. *Ph. Ed.*

Pil. c hydrargyro *Ph. Lond.*

A treatiſe has been publiſhed by Mr. Plenck of Vienna, recommending a mixture of quickſilver and gum-arabic as preferable to all the other mercurial preparations hitherto known; being in all caſes ſafe, rarely or never producing a ſalivation, and acting ſoon on the venereal virus. He directs one dram of purified quickſilver, and two drams of the gum, to be ground together in a ſtone mortar, adding by degrees half a ſpoonful of water, till the quickſilver diſappears, and the whole becomes a viſcid grey mucilage, which happens in a ſhort time: half an ounce of ſyrup, and eight ounces of a ſimple water, are then gradually added, and two ſpoonfuls of the mixture given every morning and evening. Part of the mercury remains ſuſpended in the liquor, part ſettles to the bottom, but retains ſo much of the gum as to continue divided and form a grey mucous ſediment, which readily unites again with the water on ſhaking the veſſel: if the fluid be ſeparated, and the ſediment dried by heat, the mucilage then loſes its power, and the mercury runs into globules.

The author made trial of ſeveral other ſubſtances, both animal and vegetable, for the extinction of mercury, but found none that anſwered equally with gum-arabic. The mucus expectorated from the throat extinguiſhed it, and kept it divided after the addition of water; but very little of the mercury remained ſuſpended in the liquor, both the mercury and the mucus ſubſiding. Saliva had much leſs effect: yolks of eggs, white of eggs, bile, glue of iſinglaſs, gum-tragacanth, mucilage of quince ſeeds, clarified honey, ſimple ſyrup, either did not extinguiſh the mercury at all, or ſuffered it, on dilution with water, to run together again. But thick honey, unclarified, kept it divided; and ſyrups greatly promoted the effect of gum-arabic.

The trials of the gummy mercurial that have come to my knowledge, afford little foundation to expect from it any advantages above the common mercurial preparations. I have known it given, without much benefit, in caſes which were afterwards cured in a ſhort time by ſolution of ſublimate. I have been informed, that in ſome of our hoſpitals even ſmaller doſes than thoſe directed by the author have on the third day brought on a ptyaliſm. Dr. Baldinger, in his remarks on the laſt Edinburgh pharmacopœia, recommends this ſolution as an efficacious anthelmintic, eſpecially againſt the *lumbrici*.

Mercury, thus ſimply divided by theſe or other like matters, ſeems to operate more mildly, not only in the firſt paſſages, but after it has been received into the blood, than when combined with mineral acids, or reduced by fire into the form of a calx. At the ſame time, however, it is more uncertain, or more liable to fail of taking full effect; on account, perhaps, of the ſubſtances, by which its particles are diſunited, being ſoon ſubdued and ſeparated by the digeſtive powers, ſo as to leave part of the mercury to run together again and paſs off inactive through the inteſtines. How eaſily the union is diſſoluble, may be judged from hence, that when mercury is perfectly mixed with turpentine, if the mixture be beaten up with extracts and powders into a maſs for pills, a conſiderable part of the quickſilver, by this mechanic agitation, is often ſeparated and ſqueezed out in globules.

Hydrargyrus cum ſulphure *Ph. Lond.* Æthiops mineralis *Ph. Ed.*

MERCURY, triturated with equal its weight of ſulphur, forms therewith a greyiſh black powder, which grows darker coloured in keeping, or on continuing the triture, and is commonly diſtinguiſhed by the name of *æthiops*. This compound is one of the mildeſt of the mercurial preparations; the mercury being far leſs active in mixture with ſulphur, than with any other known ſpecies of matter.

The union of the quickſilver with the ſulphur, effected by triture, at leaſt by ſuch a degree of triture as the ſhops are accuſtomed to beſtow upon them, is not intimate any more than that with the ſubſtances above mentioned. If the æthiops be rubbed on gold, a part of the mercury adheres to the gold ſo as to make it white: on mixture with ſyrups or other like matters into the conſiſtence of an electary or maſs for pills, a part of the mercury is generally ſpued out. The longer the quickſilver and ſulphur are ground together, the leſs they will be diſpoſed to ſeparate; a circumſtance which does not appear to obtain in the mixtures of mercury with reſinous or earthy bodies.

A more intimate coalition of mercury and ſulphur may be ſpeedily effected, by melting the ſulphur over a gentle fire, and gradually ſtirring into it the quickſilver, with care to cover the veſſel if an ebullition or ſwelling up of the matter ſhews it ready to catch flame; an accident which ſometimes happens when the quantities are large. This compound gives no whiteneſs to gold, and ſuffers no ſeparation of its parts on being made into electaries or other forms. Even the acid ſolvents of mercury are incapable of extracting it when thus combined with ſulphur; and the alkaline ſolvents of ſulphur extract only, by long boiling or digeſtion, ſo much of that concrete as is more than ſufficient to ſatiate the mercury.

Æthiops cum igne, *vulgo.*

If mixtures of quickſilver and ſulphur, thus intimately united by fire, in due proportions, as twenty-four or twenty-five parts of the former to ſeven of the latter, be powdered and ſet to ſublime; the two ingredients riſe together without ſeparation, (except that a part of the ſulphur, and generally a very conſiderable one, burns away in the proceſs,) and concrete, in the upper part of the ſubliming jar, into a red maſs called cinnabar or vermilion. This preparation, though containing much more mercury than the æthiops, does not appear to be more active; and is by many looked upon rather as a medicine of the antiſpaſmodic kind, than as poſſeſſing the proper virtues of mercurials.

Hydrarg. ſulphuratus ruber *Ph. Lond.*
Cinnabaris factitia *Ph. Ed.*

Indeed the real virtues, either of cinnabar or of æthiops, cannot perhaps be preciſely aſſigned.

When mercury is intimately combined with a certain quantity of ſulphur, it ſeems to operate, though given in conſiderable doſes, as a ſcruple or half a dram of the compound, only in an inſenſible manner; and in many caſes, to paſs off inactive through the inteſtinal tube *(a)*. It may be preſumed, that an increaſe of the ſulphur, beyond the quantity ſufficient for this perfect ſatiation of the mercury, will not vary its action; but that a diminution of the ſulphur will leave the mercury, or a part of it, in a ſtate of more activity; analogouſly to what has been before obſerved to happen in regard to the antimonial regulus. It may be preſumed alſo, that in perfect cinnabar the mercury is completely ſaturated, and that in perfect æthiops, it is both ſaturated, and blended with ſome redundant ſulphur: but that in ſome cinnabars, it is not ſaturated from a deficiency in the quantity of ſulphur; and that in ſome ſorts of æthiops it is not ſaturated, from an imperfection in the mixture. There are examples both of æthiops and cinnabar, one of which, in regard to the latter, has fallen within my own knowledge, having unexpectedly produced ſalivations. It ſhould ſeem therefore, that the æthiops made by fire is the moſt to be depended on, or the moſt certain and equal in its power, whatever this power may be, of any of the ſulphurated mercurials.

When æthiops or cinnabar are thrown on a red-hot iron, their fumes are of great activity. The fumes of cinnabar are ſometimes directed,

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(a) Cartheuſer, *rudimenta m. m. p.* 481. Malouin, *chim. medicinale, part.* iv. *ch.* 34.

not only to be received on the lower parts; but likewiſe to be taken into the mouth, againſt venereal ulcerations in the noſe, mouth, and throat. Of all the ways of applying mercury, this laſt requires the greateſt caution.

Hydrargyrus calcinatus *Ph. Lond.*

QUICKSILVER, included in a flat-bottomed glaſs having a ſmall hole open to the air, and kept for ſeveral months in a conſtant heat juſt not ſtrong enough to make it evaporate, calcines by degrees into a red powder. A greater heat, ſufficient to make the mercury freely diſtil, not only does not promote the calcination, but revives ſuch part, as has been already calcined, into running mercury again. A weaker heat, as that of the human body, or even of boiling water, though continued for years, changes only a ſmall part of the mercury into a blackiſh powder: conſtant triture or agitation produces ſimilar effects to this low degree of heat, and in a much ſhorter time *(a)*. If the free acceſs of air ſhould be found to influence the calcination of this, as it does that of the metallic bodies called imperfect, the tedious proceſs might be expedited, by uſing, for the veſſel, a glaſs tube, with both its ends bent upwards, and one of them conſiderably higher than the other; through which, a conſtant ſtream of freſh air would paſs over the ſurface of the ſmall thread of mercury at the bottom.

The red powder has been by ſome greatly eſteemed in venereal caſes, and ſuppoſed to be the moſt effectual and certain of the mercurials. It is accompanied with one conſiderable inconvenience, being greatly diſpoſed to irritate the firſt paſſages, and occaſion gripes; to prevent which, a ſmall quantity of opium, and ſome warm aromatic material, are commonly joined to it: the antivenereal pills of a late celebrated empyric are ſuppoſed to have been a compoſition of this kind. Even when thus corrected, however, it does not appear, from what I have been able to learn of its effects, to have any advantage above the mercurials in common uſe and of eaſier preparation. The doſe is from half a grain to two grains: five or ſix grains are ſaid to vomit and purge violently.

(a) Boerhaave, *Philoſoph. Tranſact. No.* 430, 443, 444, & *Mem. de l'acad. des ſcienc. de Paris, pour l'ann.* 1734.

Miſaubin's pills.

Pure aqua fortis, aſſiſted by a moderate heat, diſſolves equal its weight or more of quickſilver into a limpid corroſive liquor; which, largely diluted with pure water, the common ſpring waters turning it milky and precipitating a part of the mercury, has been employed in lotions againſt ſome kinds of cutaneous defedations, and where mercurial lotions are adviſable, is perhaps one of the beſt of them. An ointment is likewiſe prepared, for venereal ulcers, *&c.* by mixing the corroſive ſolution with fats: an ounce of quickſilver is diſſolved in two ounces of ſpirit of nitre, the ſolution poured hot into a pound of lard melted and juſt beginning to grow ſtiff, and the whole briſkly ſtirred up till an uniform yellow mixture is procured.

Ung. Hydrargyri nitrati *Ph.Lond.* Ung. citrinum. *Ph. Ed.*

On inſpiſſating the mercurial ſolution over a gentle fire, there remains a white maſs highly cauſtic; which, calcined with a gradual heat, becomes firſt brown, then yellow, and at length, on increaſing the heat, of a deep red colour. If the aqua fortis, uſed for the diſſolution, has been previouſly drawn over from a ſmall proportion, the hundred and twenty-eighth part

Merc. corroſiv. ruber, *vulgo* præcipit. ruber *Ph. Ed.* Hydrarg. nitratus ruber *Ph. Lond.*

part of its own weight, of ſea ſalt, the red maſs is ſuppoſed to aſſume more readily the ſparkling appearance which is looked upon as the characteriſtic of its goodneſs. This preparation is employed as an eſcharotic; and mixed with ointments and cerates, as a digeſtive; in which intention, Mr. Sharp obſerves, that it is very effectual.

Arcanum corallinum, pulvis principis, panacea merc. rubra, &c.

Sundry methods have been tried for abating the corroſiveneſs of this preparation, ſo far as to render it ſafe for internal uſe. One of the moſt certain ſeems to be, digeſting it two or three days, with a gentle heat, in about thrice its quantity of rectified ſpirit of wine, then ſetting fire to the ſpirit, and keeping the powder conſtantly ſtirring till all the ſpirit is burnt off. In this proceſs, the corroſive is deprived of a little of its acid, which is partly perhaps abſorbed and dulcified by the ſpirit during the digeſtion, and partly diſſipated by the heat during the burning. The medicine, nevertheleſs, is ſtill a very rough one, operating, generally, in doſes of a few grains, both upwards and downwards. Different preparations of this kind have been kept as ſecrets in particular hands, but it does not appear that any of them are ſuperiour in virtue to ſome other mercurials of greater ſafety and more equal power. The Edinburgh college has a waſhed precipitate of mercury from its ſolution in the nitrous acid, made by the addition of the volatile alkali.

Pulvis mercurii cinereus *Ph. Ed.*

If oil of vitriol be poured on half, or equal its weight of quickſilver, and gradually heated till the liquor boils and diſtils; the more phlegmatic parts ariſe, while the ſtronger acid corrodes the mercury into a white cauſtic maſs. On the affuſion of warm water, the maſs falls into powder, and becomes immediately yellow; a part of it, ſatiated with acid, diſſolving in the water: the larger the quantity of acid made uſe of, and the leſs thoroughly the matter has been exſiccated or calcined, the more of it will diſſolve. The yellow powder, ground with freſh quantities of water till all the ſoluble part is extracted, becomes inſipid, and in this ſtate, commonly called *turpeth* or *turbith mineral*, it proves, though not corroſive, ſtrongly emetic; operating, in this intention, the moſt effectually of all the mercurials that can be given with ſafety. It is uſed chiefly in virulent gonorrhœas, and other venereal caſes accompanied with a great flux of humours to the parts: it is ſaid likewiſe to have been employed with ſucceſs, in robuſt conſtitutions, againſt leprous diſorders, and obſtinate glandular obſtructions. The doſe, as an emetic, is from two grains to ſix or eight; though ſome conſtitutions, habituated to mercurials, can bear larger quantities: I knew an inſtance of twenty grains producing no ſenſible evacuation or diſturbance. It may be given in ſmaller doſes, as half a grain or a grain, as an alterative, after the ſame manner as the red calx of mercury already mentioned: and even when intended as an evacuant, it may perhaps, as Malouin obſerves, be moſt adviſable, to give only a ſmall quantity at a time, as one grain, and repeat this doſe every hour till the vomiting ſucceeds.

Hydrarg. vitriolatus *Ph. Lond.* Merc. flav. vulgo turpeth. minerale *Ph. Ed.*

THE marine acid has no action on mercury, unleſs either the mercury be previouſly diſſolved in other acids, or the marine ſpirit be applied in a very concentrated ſtate and in the form of fume.

On adding a ſolution of ſea ſalt to a ſolution of mercury made in aqua fortis, the nitrous acid quits the mercury, and unites with the alkaline baſis of the ſea ſalt; and, at the ſame time, the acid of the ſea ſalt unites with the mercury, and forms with it a compound difficultly and only partially diſſoluble, of which, therefore, great part ſubſides, on ſtanding for ſome time, in form of a white powder. This powder, waſhed with freſh quantities of hot water, till the more ſoluble parts are extracted, becomes nearly inſipid. In this ſtate it is recommended by Boerhaave as one of the beſt of the mercurials, and ſaid, in doſes of three grains, to purge and vomit gently. It appears however too corroſive for internal uſe; being ſo much ſo, as to be employed by the farriers for the purpoſes of an eſcharotic. The preparation is likewiſe a very unfrugal one, a conſiderable part of the mercury remaining unprecipitated, and a conſiderable part of the precipitate being diſſolved and carried off in the ablution.

Merc. præcipitat. alb. *Boerhaave.* Merc. præc. dulc. *Ph. Lond.* 1721.

This preparation of mercury, called by M. Scheele, *mercurius dulcis made the moiſt way*, is admitted into the new London pharmacopœia. A ſolution of half a pound of quickſilver is made in equal its weight of aqua fortis: while boiling hot it is added to a hot brine compoſed of four ounces of ſea ſalt diſſolved in eight pints of water. A white precipitate is thrown down, which, made inſipid by repeated waſhings, is the preparation in queſtion. Its *rationale* is this. Part of the quickſilver is *calcined* by the action of the nitrous acid; but part, though diſſolved, ſtill retains its phlogiſton, and is therefore in its proper *metallic form.* This part, ſet at liberty by the dereliction

Hydrargyrus muriatus mitis *Ph. Lond.*

liction of its acid in order to unite with the alkali of the ſea ſalt, joins the freed acid of the ſea ſalt, and with it forms the metallic compound, which being inſoluble in water, falls down in form of a precipitate.

If the dry white maſs, obtained by inſpiſſating a ſolution of mercury in aqua fortis, be powdered and mixed with equal its weight of dried ſea ſalt, the mixture put into a matras or other like veſſel, of which it may fill nearly one half, and ſet in a ſand-heat gradually increaſed; the ſame tranſpoſition of the acids will happen, as in the foregoing caſe, and nearly all the mercury will now be ſatiated with the marine acid, and form with it a ſaline compound, which ſubliming into the upper part of the matras, concretes into a white cryſtalline maſs, called corroſive ſublimate. If the vitriolic acid be uſed inſtead of the nitrous, that is, if the unwaſhed turbith be taken and mixed with ſea ſalt, the event will be the ſame; the mercury ſubliming with the acid of the ſea ſalt; while the acid, before combined with it, remains behind united with the ſea ſalt's alkali, forming therewith a *nitrum cubicum* when the nitrous acid has been uſed, and a *ſal catharticus* when the vitriolic. In like manner, if to four parts of mercury diſſolved in as much nitrous acid, and evaporated to dryneſs, five parts each of calcined ſea ſalt and calcined green vitriol be added, and the mixture ſubmitted to ſublimation; the ſame compound will be produced: the acids of the nitre and ſea ſalt are extricated by that of the vitriol: the nitrous acid aſſiſts the marine to corrode the mercury: and the mercury, combined with the marine, ſublimes, and, if the proceſs is duly conducted, concretes into a cryſtalline cake, the form in which this compound

Mercur. ſublimat. corroſ. *Ph. Ed.*

compound is expected in the ſhops. The ſame preparation is now made in a more ſimple manner, by boiling together to dryneſs two parts of quickſilver with as much ſtrong vitriolic acid, then mixing the matter with three parts and a half of ſea ſalt, and ſubliming with a gradually increaſed heat.

Hydrargyrus muriatus *Ph. Lond.*

This preparation, undiluted, is a moſt violent corroſive. A ſolution of it in lime-water, in the proportion of a dram to a quart, and a ſtronger ſolution, made by boiling the ſame quantity of powdered ſublimate, with equal its weight of alum, in a pint of common water, till half the liquor is waſted, are employed for ſome external purpoſes, as the cleanſing of foul ulcers and ſuppreſſing fungoſities, and removing obſtinate defedations of the ſkin. The lime-water, like lixivia of fixt alkaline ſalts, precipitates a part of the mercurial preparation, and hence the impregnation of the liquor cannot be preciſely aſcertained; for the ſtronger the lime-water, the more of the ſublimate will be precipitated, and the leſs corroſive will the ſolution be: at the ſame time alſo, the lime in the water, changes its nature, by its coalition with the acid which it abſorbs from the ſublimate. In the aluminous ſolution, no ſeparation happens, both the ſublimate and the alum retaining their full force: for on mixing together ſolutions of the two made ſeparately, no precipitation or turbidneſs enſued.

Aq. phagedæn.

Aq. aluminoſa.

Small doſes of this corroſive preparation, properly diluted, have been ventured upon internally. Boerhaave relates, that if a grain be diſſolved in an ounce of water, and a dram of this ſolution ſoftened with ſyrup of violets, taken twice or thrice a day, it will perform wonders in many reputed incurable diſtempers. Van

Swieten brought it into more general uſe, for the cure of venereal maladies: he diſſolves a grain of the ſublimate in two ounces of proof ſpirit, [rectified ſpirit diſſolves it more perfectly] and gives of this ſolution from one to two ſpoonfuls twice a day; continuing the medicine ſo long as any of the ſymptoms remain, with a low diet, and plentiful dilution. In the medical obſervations and inquiries, publiſhed by a ſociety of phyſicians in London, there are many inſtances of the ſucceſs of this method: the ſublimate operated chiefly by urine and ſweat, though ſometimes, for the firſt two or three days, by ſtool; and appeared not only ſafe, but more to be depended on, for the removal of the ſymptoms, than any of the other mercurials uſed as alteratives. If it be true, as ſome have preſumed, that the completeneſs of the cure has any dependence on the quantity of mercury introduced into the blood (a); it would follow, that the cure by ſublimate muſt be leſs complete than that obtained by any other mercurial preparation, and that thoſe preparations which can be taken without diſturbance in conſiderable doſes, as five or ſix grains or more, promiſe the moſt laſting cures: experience however has now ſufficiently ſhewn, that the cures obtained by ſublimate are in general perfect.

Corrosive ſublimate conſiſts of mercury, united with ſo much marine acid, as to be diſſoluble in boiling water. If by ſeparating a part of the acid, or adding more mercury, the proportion of acid is rendered ſo ſmall, as that no part of the compound ſhall be diſſoluble, when finely powdered, by long boiling in water;

(a) Aſtruc, *De morbis venereis, tom.* i. *lib.* ii. *cap.* 12.

its corroſiveneſs will be deſtroyed, and it may now be taken with ſafety in doſes of ſome grains. A little volatile ſpirit or alkaline lye, dropt into the water after the boiling, will diſcover if it has taken up any part of the mercury, by turning it cloudy or yellow: rain, ſnow, or rather diſtilled water, ſhould be employed for this trial, as the common ſpring waters are themſelves made cloudy by alkalies.

Spirit of ſal ammoniac, or other volatile alkalies, dropt into a filtered ſolution of ſublimate, abſorb a part of the acid; and the mercury, retaining ſo little as to be indiſſoluble, renders the liquor milky, and ſubſides, on ſtanding, in form of a fine white powder, which, waſhed by repeated affuſions of hot water, becomes inſipid. Solutions of fixt alkaline ſalts, ſubſtituted to the volatile ſpirit, produce a yellow precipitation: but if an equal weight of crude ſal ammoniac be diſſolved along with the ſublimate, fixt alkalies, added to this ſolution, extricate the volatile alkali of the ſal ammoniac, and the precipitate proves the ſame, as if the volatile alkali alone had been added in its pure ſtate. Theſe precipitates are uſed chiefly on account of the elegance of their colour, in unguents for cutaneous eruptions: one part of the mercurial precipitate, and eighteen of the ſimple ointment or pomatum, make the common mercurial application for theſe complaints. The precipitates have been given internally; but *mercurius dulcis*, which differs from them only in being more mild, and more equal and certain in its effects, is in this intention greatly to be preferred. It does not appear, that a combination of mercury with ſo ſmall a proportion of acid, that is, ſo mild and ſafe a mercurial, can be obtained by any kind of

Merc. præcipit. albus *Ph. Ed.*

Calx hydrarg. alba *Ph. Lond.*

Unguent. calcis hydrarg. alb. *Ph. Lond.*

of precipitation, as by the proceſs by which *mercurius dulcis* is prepared.

Mercurius dulcis is ſublimate made mild, by combining with it ſo much freſh mercury, as is ſufficient to ſatiate the redundant acid. Four parts of powdered ſublimate are ground with three, or three and a half of quickſilver (an operation in which great caution is neceſſary, to avoid the lighter corroſive particles that fly off) till they are thoroughly incorporated; or, which is much more commodious, digeſted together in a gentle heat, by which the union will be performed as effectually. The mixture is then ſublimed in a glaſs matras or phial; the ſublimed white maſs freed from the whitiſh acrid matter about the mouth of the veſſel, and from ſuch mercurial globules as may happen to appear diſtinct, then pulverized, and ſublimed again: the college of Edinburgh directs the ſublimation to be repeated three or four times, that of London four times. By repeated ſublimations, if a ſufficient quantity of mercury has not been united at firſt, the medicine becomes leſs liable to irritate the firſt paſſages and run off by ſtool; on account of ſome ſmall part of the acid, or ſome portion of the compound not fully dulcified in the firſt operation, being ſeparated or diſſipated by the heat. The dulcification depends ſolely on the combination of ſo much freſh mercury with the ſublimate, as may fully ſatiate the acid: the union of the two is effected by the digeſtion previous to the ſublimation: and the only uſe of the ſublimation itſelf is to ſeparate ſuch part as may remain undulcified, this part being the moſt volatile.

Calomelas
Ph. Lond.
Merc. dulcis
Ph. Ed.
Aquila alba.

Mercurius dulcis appears to be the beſt and ſafeſt of the mercurial preparations that can be taken in a ſolid form, whether as a ſialagogue or as a general alterant; no one of the mercurials, whoſe tranſmiſſion into the blood can be depended on, being ſo little diſpoſed to affect the firſt paſſages. As a ſialagogue, five, ten, and ſometimes fifteen grains, made into a bolus or pills, are repeated every night or oftener, till the ptyaliſm begins. As an alterative, it is given from one to two or three grains. It generally anſwers beſt in ſmall doſes, which may be repeated, with due caution, every evening, for a conſiderable time, without inconvenience.

Mercury, precipitated from aqua fortis by fixt alkali, diſſolves totally, by the aſſiſtance of heat, in diſtilled vinegar: on cooling, the ſalt cryſtallizes into fine brilliant plates, which float in the liquor like pieces of ſilver leaf, and are very difficult of ſolution in water. This ſalt, as appears from the experiments of Hellot and others (a), is the baſis of an antivenereal medicine which has lately come into great repute abroad, but which does not ſeem, from the accounts that have been publiſhed of it, to be either more ſafe, or more effectual, than ſome of the common officinal mercurials. * A ſalt of this kind, made by diſſolving the mercurial precipitate in the concentrated acetous acid procured by diſtilling verdigris, is received into the late edition of the London pharmacopœia.

Keyſer's pills.

Hydrarg. acetatus *Ph. Lond.*

In ſome obſtinate defedations of the ſkin, mercurials and antimonials, joined together, have frequently better effects than either of them unaſſiſted by the other. Some triturate quickſilver with twice its weight of crude antimony, till the mercurial globules diſappear, and

Æthiops antimonialis.

(a) *Memoires de l'acad. roy. des ſciences de Paris*, 1759.

the mixture becomes an uniform æthiops or black powder: others, inſtead of the crude antimony, uſe the medicinal regulus, or the golden or precipitated ſulphur; and thus obtain an æthiops of more activity. The college of Edinburgh has given a preſcription of pills on this principle, compoſed of three parts of quickſilver, two parts each of golden ſulphur of antimony, gum guaiacum and honey, and ſo much mucilage of gum-arabic as will reduce them into a maſs of a due conſiſtence: if a dram of the maſs is made into twenty pills, the doſe may be increaſed from one to ſix or more, according to the operation.

Pil. æthiopicæ *Ph. Ed.*

Some of the mercurial preparations have been ſaid to be oftentimes ſophiſticated; the cinnabar and red corroſive with red lead, the corroſive ſublimate and mercurius dulcis with arſenic. The red lead may be readily diſcovered by fire; the mercurial part evaporating, while the saturnine remains behind. With regard to the other abuſe, ſome have affirmed it to be impracticable *(a)*; for if arſenic be mixed with ſublimate, and the mixture ſet to ſublime, the marine acid quits the mercury, and unites with the arſenic; with which it compoſes, not a ſolid cryſtalline, but a ſoft butyraceous concrete, called by the chemiſts butter of arſenic. If arſenic ſhould nevertheleſs, in certain circumſtances *(b)*, be combinable with the ſublimate into a cryſtalline cake; and if the pernicious artifice ſhould be ever practiſed, the reports of which we preſume to be groundleſs; the well known properties of arſenic afford ſufficient means

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(a) Neumann, *Chemical works, p.* 142.

(b) Pott, *De ſale communi, p.* 76.

means for detecting it. If a compound of ſublimate and arſenic be mixed with equal its weight or more of fixt alkaline ſalt, chalk, or vegetable aſhes, and expoſed to a moderate heat, the arſenic will ſublime into the upper part of the glaſs, and may now be diſtinguiſhed by its own proper characters. Some recommend alkaline lixivia as a criterion of this abuſe: ſublimate that contains arſenic being ſaid to give a black colour with the alkali: on what foundation this ſhould happen, I cannot conjecture; for arſenic ſtrikes no blackneſs with alkalies either fixt or volatile; ſolutions of it are, on the contrary, by both alkalies made white.

ARISTOLOCHIA.

BIRTHWORT: a plant with heart-ſhaped leaves ſet alternately on the ſtalks; in the boſoms of which come forth irregular tubulous flowers, with a wide mouth, whoſe lower part is produced into a long flap like a tongue: the ſeed-veſſel is large, roundiſh, and divided into ſix cells.

1. ARISTOLOCHIA LONGA *Linn. Ariſtolochia longa vera C. B.* Long birthwort, with uncut leaves, ſtanding on pedicles; and oblong roots, not tapering to a point, browniſh on the outſide and yellow within.

2. ARISTOLOCHIA ROTUNDA *Linn. Ariſtolochia rotunda flore ex purpura nigro C. B.* Round birthwort: with uncut leaves joined immediately to the ſtalks, and roundiſh roots.

3. PISTOLOCHIA: *Ariſtolochia tenuis Pharm. Pariſ. Ariſtolochia piſtolochia dicta C. B. & Linn.*

Buſhy birthwort: with indented leaves ſet on pedicles; and buſhy roots, compoſed of a number of fibres iſſuing from one head. In this and the foregoing ſorts, the ſtalks are weak and trailing, and the flowers ſtand ſolitary.

4. ARISTOLOCHIA TENUIS *Pharm. Edinb. Ariſtolochia clematitis recta C. B. Ariſtolochia clematitis Linn.* Creeping birthwort: with upright ſtalks, flowers ſtanding in cluſters, and long ſlender creeping roots rarely exceeding the thickneſs of a gooſe quill.

THESE plants are natives of the ſouthern parts of Europe, from whence we are ſupplied with the dry roots. They bear the colds of our own climate; the third ſort excepted, which dies in ſevere winters. The fourth ſpreads faſt, to a great diſtance, ſo as not to be eaſily extirpated.

ALL the birthwort roots have ſomewhat of an aromatic ſmell, and a warm bitteriſh taſte. They are repreſented by authors, as being extremely hot and pungent: Boerhaave ſays, they are the hotteſt of the aromatic plants, and, as it were, burn the tongue and palate, having probably examined the freſh roots; but whatever their qualities may be in that ſtate, ſuch as are uſually met with in the ſhops, have no great pungency. The long and round ſorts, on firſt chewing, ſcarce diſcover any taſte, but in a little time prove nauſeouſly bitteriſh; the round ſomewhat the moſt ſo. The other two inſtantly fill the mouth with a kind of aromatic bitterneſs, not very ungrateful.

Theſe roots give out their virtue by infuſion both to ſpirituous and watery menſtrua, to the firſt moſt perfectly: the colour of all the tinctures is browniſh or yellowiſh. In diſtillation, pure ſpirit brings over little or nothing: with water there ariſes, at leaſt from both the ſlender rooted ſorts, a ſmall portion of eſſential oil, poſſeſſing the ſmell and flavour of the roots. The extracts made with ſpirit ſmell moderately, and taſte ſtrongly, of the birthworts: the watery extracts have nothing of their peculiar flavour, and are much more nauſeous in taſte than either the ſpirituous extracts, or the roots in ſubſtance.

The birthwort roots are celebrated as warm attenuants and deobſtruents, particularly in ſuppreſſions of the uterine purgations, from which virtue they are ſuppoſed to have received their name: the doſe is from a ſcruple to a dram and upwards. They have likewiſe been recommended, particularly the fourth ſort, as alterants in the gout: Boerhaave obſerves, that the pituitous gout, as he calls it, is often relieved by an infuſion of theſe roots in ſpirit of juniper berries, ſweetened with ſugar, and taken to the quantity of a ſpoonful at a time; but that in other kinds of the gout, and in ſubjects of a tender conſtitution, this medicine occaſions a loſs of appetite, a weakneſs of the ſtomach, and a languidneſs, leſs ſupportable than the gout itſelf. A powder compoſed of this and other ſimilar materials, which was preſcribed by the ancients as an antiarthritic, and has lately come again into eſteem, has alſo produced complaints of the ſame kind. Externally theſe roots have been uſed as diſcutients, detergents, and antiſeptics: Simon Paulli relates, that the long birthwort roots, applied as an epithem or in fomentation, were found remarkably ſerviceable in ſtubborn ulcers of the legs.

ARNICA, ſee *DORONICUM.*

ARSENICUM.

ARSENICUM ALBUM Pharm. Pariſ. Arſenicum ſimpliciter dictum. ARSENIC or WHITE ARSENIC: a ſemitranſparent cryſtalline concrete, aſſuming an opake milky hue on being expoſed for ſome time to the air: ſoluble plentifully in alkaline lixivia, more ſparingly in oils, and ſtill more ſo in acids; diſſolving alſo, by the aſſiſtance of a boiling heat, in water, but ſeparating and cryſtallizing in great part as the liquor cools; totally exhaling, by a heat below ignition, in thick fumes, diſtinguiſhable from thoſe of all other known mineral ſubſtances, by a ſtrong fetid ſmell reſembling that of garlic.

The fumes, caught in veſſels, condenſe, either into a cryſtalline form again, or into a powdery one, according as the receiver is leſs or more removed from the action of the heat. If the arſenic be mixed with vegetable or animal coals, or other inflammable ſubſtances not ſulphureous, that is, not participating of vitriolic acid, and expoſed to a moderate heat without communication with the air, it ſublimes in form of a bright greyiſh metallic ſubſtance, quickly tarniſhing to a black, lighter and leſs compact than moſt of the other metallic bodies, ſcarcely ſeven times ſpecifically heavier than water, changeable into a calx or white arſenic again by ſublimation with the admiſſion of air.

Arſenic is contained, in greater or leſs quantity, in the ores of moſt metallic bodies, particularly in thoſe of tin and biſmuth, and in the mineral called cobalt, *cobaltum*, *cadmia metallica*; from which laſt, greateſt part of the arſenic brought to us is extracted, in Saxony, by a kind of ſublimation: the arſenic riſes at firſt into a large horizontal chimney communicating with the furnace, in form of a greyiſh meal, which, more carefully reſublimed, concretes into the cryſtalline white arſenic of the ſhops. Henckel obſerves, that of all the metallic bodies, mercury and the antimonial metal are the only ones which are never found to have any arſenic in their ores: to theſe perhaps may be added zinc, whoſe proper ore, calamine, appears to be pure from arſenic.

White arſenic is one of the moſt violent poiſons. Beſides the effects, which it produces in common with other poiſonous ſubſtances, it is ſaid to render the coats of the ſtomach remarkably thin, to occaſion a ſwelling and ſphacelation of the whole body, and a ſudden putrefaction after death, particularly of the genitals in men (a). Where the quantity taken has been ſo ſmall as not to prove fatal, tremors, palſies, and lingering hectics ſucceed. It has likewiſe been obſerved to produce very dangerous, and ſometimes mortal ſymptoms, when applied externally (b), which it was formerly recommended to be, againſt cancers and ſcrophulous tumors.

* This dangerous mineral has of late been conſidered by ſome as a real ſpecific againſt the cancerous virus. Mr. Le Febure has ventured publicly to recommend its *internal* uſe, together with a topical application of it to the affected

part, in cancerous caſes; and poſitively affirms that he has found it efficacious in more than two hundred inſtances, without any bad effects. He gives a very dilute ſolution of white arſenic, mixed with milk and ſyrup of poppies. Mr. Juſtamond, who publiſhed a treatiſe on cancers two or three years ſince, agrees with the above-mentioned author in the idea that arſenic is ſpecific againſt this diſeaſe, but laments that even the moſt guarded *external* uſe of it, while it produces the happieſt effects in healing cancerous ulcers, yet occaſions ſuch diſagreeable ſymptoms of the paralytic kind, that it cannot be perſiſted in. The lateſt trials in London are ſaid to confirm this account*(*a*).

(a) Stahl. *Menſ. Novemb. cap.* iv. *opuſc. p.* 454, 455. Lindeſtolpe, *De venenis, edit. Stentzel, cap.* xvi. *theſ.* x. *p.* 755.

(b) Degner, *Hiſt. dyſenteriæ biliosæ, p.* 214. Hildanus, *Obſ. p.* 606. Heimrich, *Act. nat. cur. vol.* ii. *obſ.* 10. Fernelius, *De methodo medendi, lib.* vi. *cap.* 18.

The remedies againſt this, as againſt moſt other poiſons, are, milk and oily liquors, immediately and liberally drank. Hoffman tells us of ſeveral perſons of diſtinction, who, on taſting food with which white arſenic had been mixed inſtead of ſugar, were all ſeized with anxiety at the breaſt, pain at the ſtomach, tremor of the lips, and reachings: milk and oil were poured down, plentifully and repeatedly, ſo as to keep them ſtrongly vomiting for half a day; ſome vomited no leſs than an hundred times: by this ſimple remedy they all eſcaped (*b*), and ſome inſtances of the ſame kind have fallen within my own knowledge. Tachenius relates, that convulſions of the limbs, gripes, bloody urine with inexpreſſible pain, and a contraction of the whole body, which he had been ſeized with from expoſure to the fumes of arſenic, being relieved by milk and oil, a ſlow fever ſucceeded, which continued during the winter, and of which he was at laſt cured by decoctions of the vulnerary herbs, and by the uſe of cabbage ſprouts with orange juice, oil, and a little ſalt (a). *Sage, in his *Mineralogy*, ſays that the regulus is far leſs dangerous than the calx or glaſs: he gave half an ounce of the regulus to a cat; who grew *meager* for ſome time, but afterwards fat again—that acids, particularly vinegar, are the antidotes to this poiſon. Oils and emulſions do not obtund its effects as acids do; of this he has had experience on brutes—that the regulus is not ſoluble in water; and that the founders are more afraid of fumes of lead than of arſenic.

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* (*a*) The internal uſe of arſenic has ſince gained ground in a variety of diſorders, particularly in intermittent fevers, which it is ſaid readily to cure, and ſometimes after the bark and all other remedies have failed, and that without any bad effects whatſoever, or ſuch only as are eaſily obviated. A ſolution of the mineral is given by drops, amounting from $\frac{1}{16}$ to $\frac{1}{8}$ of a grain for a doſe, largely diluted in a tepid aqueous liquor.

See *Fowler's Medical Reports of the Effects of Arſenic*, 1786.

(*b*) Hoffman, *Syſt. med. rat. de feb. ſect.* ii. *cap.* iii. *obſ.* iii.

Sulphur, which reſtrains the power of mercury and the antimonial metal, remarkably abates the virulence of arſenic; compoſitions of arſenic and ſulphur being far leſs poiſonous than the pure white arſenic, and thoſe, in which the quantity of ſulphur is conſiderable, ſeeming to be almoſt innocent. Different compoſitions of this kind are both prepared by art, and found native in the earth.

Arſenicum flavum.

The bright yellow, ſomewhat tranſparent maſſes, called *yellow arſenic*, are prepared, by mixing the arſenical meal, as extracted by the firſt ſublimation from the ore, with one tenth its weight of ſulphur, and ſubliming them together: on doubling the quantity of ſulphur, the compound proves more opake and compact, of a deep *red* colour, reſembling in the maſs that of

Arſenicum rubrum.

(a) Tachenius, *Hippocrates chymicus*, p. 149.

of cinnabar, but loſing of its beauty on being ground into powder, whilſt that of cinnabar is improved by trituration: by varying the proportions of arſenic and ſulphur, ſublimates may be obtained of a great variety of ſhades of yellow and red. The foſſil ſulphurated arſenics differ remarkably in texture as well as in colour, ſome being ſmooth and uniform like the factitious maſſes, and others compoſed of ſmall ſcales or leaves; the former are commonly diſtinguiſhed by the name *zarnichs*, the latter by that of *auripigmenta* or *orpiments:* the orpiments are the only ſubſtances to which the Greeks gave the name *arſenicon*, the preparation of white arſenic being a diſcovery of later years: the red zarnichs are the *ſandarache* of the Greeks, and the *realgar* and *riſigal* of the Arabians and ſome of the chemical writers.

That theſe foſſils are really ſulphurated arſenics is evident from ſundry experiments. When ſet on fire, the arſenical, as well as the ſulphureous ſmell, is plainly diſtinguiſhable. If triturated with quickſilver, and expoſed to a ſuitable heat, the ſulphur is detained by the mercury, and a pure white arſenic ſublimes. A mixture of fixt alkaline ſalt, with any vegetable or animal ſubſtance, as the compound called by the aſſayers *black flux*, in like manner keeps down the ſulphur, and at the ſame time revives the arſenic into its reguline or metallic form.

All theſe compounds are mild, compared to the white arſenic; and ſeveral of them are looked upon by many as having no poiſonous quality. Some, both of the factitious and native, have been given to dogs in conſiderable quantities, without producing any ill effect. The native minerals have been uſed as medicines in the eaſtern countries, and by ſome imprudently recommended in our own.

ARTEMISIA.

ARTEMISIA Pharm. Edinb. Artemiſia vulgaris major C. B. Artemiſia vulgaris Linn. MUGWORT: a plant, with firm ſtalks, generally purpliſh; deeply divided leaves, reſembling thoſe of common wormwood, of a dark green colour above, and hoary underneath; and ſmall, purpliſh, naked, diſcous flowers, ſtanding erect, in ſpikes, on the tops of the branches. It is perennial, grows wild in fields and waſte grounds, and flowers in June.

THIS plant has been chiefly recommended for promoting the uterine evacuations, and abating hyſteric ſpaſms; for which purpoſes, infuſions of it have been drank as tea and uſed as a bath. It appears to be one of the mildeſt of the ſubſtances commonly made uſe of in ſuch intentions; and may, perhaps, be of ſervice, in ſome caſes, where medicines of more activity would be improper.

The leaves have a light agreeable ſmell, eſpecially when rubbed a little; but ſcarcely any other than an herbaceous taſte. An extract made from them by water is likewiſe almoſt inſipid; and an extract made by ſpirit has only a weak aromatic bitteriſhneſs. Baierus informs us, in a diſſertation on this plant, that by fermenting a large quantity of it, and afterwards diſtilling, and cohobating the diſtilled water, a fragrant ſapid liquor was obtained, with a thin fragrant oil on the ſurface. The flowery tops are conſiderably ſtronger than the leaves, and hence ſhould ſeem to be preferable for medicinal uſe.

ARTHANITA.

CYCLAMEN orbiculato folio inferne purpuraſcente C. B. Cyclamen europæum Linn. SOW-BREAD: a low plant, without any other ſtalk than the ſlender pedicles of the leaves and flowers: the leaves are pretty large, round, of a green colour above with white ſpecks, and purpliſh underneath: the flowers purpliſh, monopetalous, deeply divided into five ſegments, followed by round ſeed-veſſels: the roots large, ſomewhat globular, with ſeveral fibres, blackiſh on the ouſide and white within. It is perennial, a native of the ſouthern parts of Europe, and cultivated in ſome of our gardens.

THE freſh roots of arthanita have a nauſeous, acrid, biting taſte, and no remarkable ſmell: by drying, their acrimony is greatly abated; by long keeping, it is almoſt deſtroyed; though after they have loſt ſo much as to make very little impreſſion on the organs of taſte, they ſtill betray, when taken internally, a great degree of irritating power. Dried and powdered, they have been given in doſes of a dram, and found to operate as a ſtrong inflammatory, yet ſlow cathartic. The juice is ſaid to purge when applied externally to the belly in ointments; and the juice or bruiſed root to be of great efficacy for ſoftening and diſcuſſing indolent hard tumours. The flowers are of a different nature, having a moderately ſtrong and very pleaſant ſmell, and little other than a mucilaginous taſte: they have not been uſed medicinally, and the uſe of the roots is now, among us, in great meaſure laid aſide.

A R U M.

ARUM Pharm. Lond. & Edinb. Arum maculatum maculis nigris C. B. Arum maculatum Linn. WAKE-ROBIN OR CUCKOWPINT: a low perennial plant, growing wild under hedges and by the ſides of banks. It ſends forth, in March, three or four ſmooth leaves, triangular, or ſhaped like the head of a ſpear: theſe are ſucceeded by a naked ſtalk, bearing a purpliſh piſtil incloſed in a long ſheath, which is followed, in July, by a bunch of red berries: the root is irregularly roundiſh, about an inch thick, browniſh on the outſide and white within. In ſome plants the leaves are ſpotted with black, in others with white ſpots, and in others not ſpotted at all: the black ſpotted ſort is ſuppoſed to be the moſt efficacious, and hence is expreſsly directed by the London college. All the ſorts are ſaid to be ſtronger, when produced in moiſt ſhady ſoils, than in dry open expoſures.

THE freſh roots of arum have an extremely pungent acrimonious taſte: ſlightly chewed, they continue to vellicate and burn the tongue, the part which they principally affect, for many hours, producing at the ſame time a conſiderable thirſt: theſe uneaſy ſenſations are ſomewhat alleviated by milk, butter, or oily liquors. The other parts of the plant are likewiſe highly acrid, though rather leſs ſo than the roots. No part has any ſmell, except the piſtil, which has a faint fetid one.

This root loſes greateſt part of its acrimony on being dried ſufficiently to become pulverable.

Kept dry for ſome time, it ſeems, on firſt chewing, to be an inſipid farinaceous ſubſtance: it ſtill, however, retains a kind of latent pungency, ſo as when chewed long, in any conſiderable quantity, to produce a ſenſation as of a ſlight excoriation of the tongue. Parkinſon obſerves, that the white farinaceous ſtarch-like powder has been uſed in waſhing, and that it has ſometimes bliſtered the hands.

Fœcula ari. The freſh root, dug up in autumn, yielded upon expreſſion about one ſixth its weight of a milky juice; which, on ſtanding, depoſited a white fecula and became clear: the clear liquor was inſipid: the fecula was conſiderably pungent, but, like the root in ſubſtance, loſes its pungency on being dried. The freſh and the moderately dried roots were digeſted in water, in wine, in proof ſpirit, and in rectified ſpirit, with and without heat: the liquors received no colour, and little or no taſte. In diſtillation, neither ſpirit nor water brought over any ſenſible impregnation from the arum: the watery and ſpirituous extracts alſo were nearly inſipid. The root, nevertheleſs, loſes in theſe operations almoſt the whole of its pungency.

The root may be preſerved freſh in ſand for ſeveral months; and if the ſand is ſomewhat moiſt, ſo as to ſuffer it to vegetate, it will be the better ſecured both from rotting and from loſing of its virtue. It appears to be of equal vigour, or at leaſt of ſufficient vigour for medicinal uſe, at all periods of its growth, and in all ſeaſons of the year. As it has hitherto been uſed only in a dry ſtate, it has been generally taken up about the time of the plant beginning to die, as the root is then leaſt juicy, and ſhrinks leaſt in drying.

Arum root, newly dried and powdered, is given in doſes of a ſcruple and upwards; for ſtimulating the ſolids, attenuating viſcid juices, and promoting the natural ſecretions; in cold, languid, phlegmatic habits; againſt weakneſs and relaxations of the ſtomach, and catarrhous and rheumatic diſorders. It has been generally given in conjunction with other materials, and to ſome of theſe the effects of the compound have been in great part aſcribed. The London college have diſcarded their compound powder of arum, and in its ſtead have directed a conſerve of the freſh root, in the proportion of three parts of ſugar to one of the root, as the beſt method of preſerving it in an active ſtate.

Conſerva Ari *Ph. Lond.*

The vinous and ſpirituous tinctures of this root, by ſome recommended, appear, from the experiments above related, to be inſignificant: but though ſpirituous liquors are incapable of diſſolving or extracting the active matter of the arum, they ſeem nevertheleſs, when given along with the dried root as a vehicle, to promote its action: Juncker obſerves, that a dram of the powder, taken with a ſpoonful of brandy, procures a very copious ſweat, even in perſons little diſpoſed to that evacuation; while the powder, by itſelf, has no ſuch effect *(a)*.

The inſupportable pungency on the tongue, which has hitherto prevented this root from being uſed in a freſh ſtate ſo as to exert its full virtues, I have found to be effectually covered by unctuous and gummy materials. The freſh root, beaten into a ſmooth maſs, with the addition of a little teſtaceous powder which promotes the diviſion of it, may either be mixed with about an equal quantity of powdered gum-

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(a) Conſpectus therapeiæ, tab. de diaphoreſi, p. 99.

arabic, and three or four times as much conſerve, ſo as to make them into an electary; or rubbed with a thick mixture of mucilage of gum-arabic and ſpermaceti, gradually adding any ſuitable watery liquors and a little ſyrup, ſo as to form an emulſion: two parts of the root, two of gum, and one of ſpermaceti, make an emulſion which ſcarcely impreſſes any degree of pungency though kept long in the mouth. In theſe forms I have given the freſh root from ten grains to upwards of a ſcruple, three or four times a day: it generally occaſioned a ſenſation of ſlight warmth, firſt about the ſtomach and afterwards in the remoter parts, manifeſtly promoted perſpiration, and frequently produced a plentiful ſweat. Several obſtinate rheumatic pains were removed by this medicine, which is therefore recommended to further trial.

ASA FŒTIDA.

ASA FŒTIDA Pharm. Lond. & Edinb. Laſer. Laſerpitium. Sylphium: ASAFETIDA: the fetid concrete juice of a large plant, growing in the mountains of the provinces of Choraſaan and Laar in Perſia, called by Kæmpfer *umbellifera leviſtico affinis, &c.* "The umbelliferous plant akin to lovage, with branched "leaves like thoſe of piony, a very large full "ſtalk, and naked ſolitary foliaceous ſeeds like "thoſe of parſnep or cow-parſnep, yielding "aſafetida from its root." It is the *Ferula Aſſa Fœtida* of Linnæus. The root of the plant, when grown to a proper age and ſize, is bared of earth at the top, ſkreened from the ſun by the leaves that have been pulled off, after ſome days cut horizontally, and again carefully ſkreened: the juice gradually riſes, and in a day or two is accumulated on the ſurface; and being thence collected, the ſuperficial part of the root, that has become dry, is cut off, to allow an exit to the remainder of the juice. A particular detail of this proceſs may be ſeen in Kæmpfer's *amœnitates exoticæ*. This juice, as it firſt iſſues from the root, is liquid and white like milk: on being expoſed to the air, it turns browniſh, and gradually acquires different degrees of conſiſtency. It is brought to us in large irregular maſſes, compoſed of various ſhining little lumps or grains, which are partly whitiſh, partly of a browniſh or reddiſh, and partly of a violet hue. Thoſe maſſes are accounted the beſt, which are clear, of a pale reddiſh colour, and variegated with a great number of fine white tears.

THIS juice has a ſtrong fetid ſmell approaching to that of garlic, and a nauſeous bitteriſh biting taſte. It is by much the ſtrongeſt of the deobſtruent warm fetid gums; and is given not only againſt hyſterical complaints, flatulent colics, and obſtructions of the breaſt; but in moſt of the diſorders called nervous, in which it frequently acts as an antiſpaſmodic and an anodyne: in ſome caſes muſk, and in ſome opium, are uſefully joined to it. It is ſometimes uſed alſo as an anthelmintic, and ſaid by Hoffman to be one of the capital medicines of that claſs. It is moſt commodiouſly taken in the form of pills; from a few grains to a ſcruple or half a dram. It loſes with age of its ſmell and ſtrength; a circumſtance to be attended to in doſing it: Kæmpfer informs us, from his own obſervation, that a ſingle dram of the recent juice ſmells more than an hundred pounds of ſuch as is commonly ſold in Europe.

Aſafetida is compoſed of a gummy and a reſinous ſubſtance, the firſt in largeſt quantity. Its ſmell and taſte reſide in the reſin; which is readily diſſolved and extracted by pure ſpirit, and, in great part, along with the gummy matter, by water. The tincture made in pure ſpirit is of a tranſparent yellow colour; that made in proof ſpirit, and the watery infuſion, is turbid. A tincture in rectified ſpirit is kept in the ſhops; whereof two drams contain nearly all the virtue of fifteen grains of the aſafetida †: and another, in which two ounces of aſafetida are diſſolved in one pound of dulcified ſpirit of ſal ammoniac ‡.

† Tinctura aſæ fœtidæ *Ph. Lond.*

‡ Tinct. fœtida *Ph. Ed.*

In diſtillation with water, it impregnates the aqueous fluid highly with its ſcent, and yields a ſmall portion of a pale-coloured eſſential oil which ſmells exceeding ſtrongly: the remaining decoction, inſpiſſated, leaves a weakly nauſeous bitteriſh extract, of very little ſmell. Rectified ſpirit diſtilled off from the tincture made in that menſtruum, proves likewiſe conſiderably impregnated with the flavour of the aſafetida, though much leſs ſo than the diſtilled water; the remaining extract ſmells moderately, and taſtes ſtrongly of the juice.

ASARUM.

ASARUM Pharm. Lond. & Edinb. C. B. Nardus ruſtica; *Vulgago. Aſarum europæum Linn.* ASARABACCA: a low plant without ſtalks: the leaves are ſtiff, roundiſh, with two little ears at the bottom, ſomewhat reſembling a kidney, of a dark ſhining green colour, ſomewhat hairy, ſet on pedicles three or four inches long: the flowers, which riſe among the leaves on ſhorter pedicles, conſiſt of purpliſh ſtamina ſtanding in a darker coloured cup, and are followed, each, by a capſule containing ſix ſeeds. It is perennial and evergreen, a native of the ſouthern parts of Europe and the warmer climates, and raiſed with us in gardens. The dried roots have been generally brought from the Levant; thoſe of our own growth being ſuppoſed of weaker virtue.

The roots and leaves of aſarum have a moderately ſtrong, not very unpleaſant ſmell, ſomewhat reſembling that of valerian or nard; and a nauſeous bitteriſh, acrid taſte. The roots given in ſubſtance, in doſes of a ſcruple or more, prove ſtrongly emetic and cathartic. The leaves have the ſame operation, but their doſe or degree of force has not been preciſely determined: according to ſome, they are of more activity than the roots.

It is ſaid, that this emetic plant has been of ſervice in ſerous diſorders, and hurtful in melancholic caſes: that in ſmall doſes, it promotes perſpiration, urine, and the uterine flux: that tinctures made in ſpirituous liquors poſſeſs both the emetic and cathartic virtues of the aſarum: but that the extracts, obtained by inſpiſſating theſe tinctures, act only, and with ſufficient mildneſs, by vomit; requiring to be given in as large doſes as the plant in ſubſtance, to produce as plentiful evacuations: that infuſions in water operate mildly both upwards and downwards: that by coction in water, the emetic power is firſt deſtroyed, and afterwards the purgative; the decoction long boiled, or an extract prepared with a large quantity of water not acting at all by ſtool or vomit, but proving powerfully deobſtruent, diuretic, *&c.* It is obvious, however, as the activity of the aſarum is diminiſhed more and more by boiling, that both the decoction and the extract muſt be accompanied with one capital inconvenience, precariouſneſs in point of ſtrength.

The principal uſe of aſarum among us is as an errhine. The root is one of the ſtrongeſt of the vegetable ſubſtances commonly employed in this intention: a grain or two, ſnuffed up the noſe, procure a large evacuation of mucus both from the noſe and mouth, without provoking ſneezing like the white hellebore root, or diſcovering any remarkable irritation. The leaves, though ſuppoſed to be ſtronger than the roots as emetics and cathartics, appear to be milder as errhines. Geoffroy relates, that after ſnuffing a doſe of this errhine, he has obſerved the ſalutary diſcharge to continue for three days together, and that he has known a paralyſis of the mouth and tongue cured by one doſe: he recommends this medicine in ſtubborn diſorders of the head proceeding from viſcid matters, in palſies, and in ſoporific diſtempers. During its operation, the patient muſt carefully avoid cold; which is apt to produce puſtules, inflammations, and ſwellings of the face, and ſometimes more alarming ſymptoms. This herb is a principal ingredient in the cephalic or ſternutatory powders of the ſhops: ſome take three parts of dried aſarum and one of marjoram leaves †, others equal parts of the dried leaves of aſarum, marjoram, and marum ſyriacum, and dried lavender flowers ‡. The empyrical herb ſnuffs have likewiſe the leaves of aſarum for their baſis, but often mixed with ingredients of a more dangerous nature.

† Pulv. cephalicus *Ph. Ed.*

‡ Pulv. aſari compoſitus *Ph. Lond.*

ASPARAGUS.

ASPARAGUS ſativa C. B. Aſparagus officinalis Linn. Asparagus: a perennial plant, cultivated for culinary uſe. In the ſpring appear a number of ſtraight naked ſhoots; which, riſing to the height of two or three feet, divide into ſlender, firm, ſpreading branches, clothed with ſoft, green, capillary leaves: the flowers are of a pale greeniſh colour, and ſucceeded by ſhining red berries.

THE young ſhoots of aſparagus, boiled, are ſuppoſed to promote appetite, but afford little nouriſhment. They give a ſtrong fetid ſmell to the urine in a little time after being eaten, and for this reaſon have by ſome been accounted uſeful diuretics, by others injurious to the kidneys. It does not appear, from common experience, that they poſſeſs either of theſe qualities in any conſiderable degree*(a).

The roots of the plant, which are the part principally employed for medicinal purpoſes, are leſs agreeable in taſte than the young ſhoots, and ſuppoſed to be more aperient and diuretic: they appear to be ſimilar, in virtue as in taſte, to the roots of fennel, parſley, and the others commonly called aperient, to which they have been ſometimes joined in apozems and infuſions. It is obſervable, that neither the roots, nor the ſtalks when grown up ſo as to part into branches, give any ill ſmell to the urine.

ATRIPLEX OLIDA.

ATRIPLEX fœtida Ph. Edinb. & C. B. Chenopodium fœtidum Tourn. Chenopodium Vulvaria Linn. Blitum fœtidum vulvaria dictum

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*(a) Bergius aſſerts that he knew a lady who after eating aſparagus generally made bloody urine. *Mat. Med. p.* 268.

Raii ſyn. Garoſmum. STINKING ORACHE or ARACH: a low, procumbent plant, ſprinkled all over with a whitiſh clammy meal: the leaves are ſmall, of a roundiſh figure, with an obtuſe point: on the tops of the branches come forth cluſters of imperfect flowers, followed each by a flattiſh ſeed. It is annual, grows wild about dunghills, and flowers in Auguſt.

THIS plant has a moderately ſtrong ſmell, not a little offenſive, ſomewhat akin to that of ſalt-fiſh, and which laſts long on the hands after touching the herb: it is ſometimes met with among old rubbiſh; in which ſituation, its ſmell proves weaker than when produced in moiſter places, which it naturally delights in, and is alſo ſomewhat of a different kind: in either caſe, its taſte is not very conſiderable. It gives a ſtrong impregnation to water, both by infuſion and diſtillation: the ſmell is extracted likewiſe by rectified ſpirit, and by this menſtruum in ſome degree covered. In drying, the ſmell becomes weaker and of a leſs offenſive kind: in keeping it is diſſipated, but not ſoon.

Stinking arach, on account of its ſtrong ſcent, is reckoned an uſeful antihyſteric; in which intention ſome recommend a conſerve of the leaves, others a watery infuſion, and others a ſpirituous tincture of them. On ſome occaſions, it may perhaps be preferable to the fetids which have been more commonly made uſe of; as not being accompanied with any pungency or irritation, and ſeeming to act merely by virtue of its odorous principle.

AURANTIA.

AURANTIA & arantia malus. Citrus Aurantia Linn. ORANGE TREE: a beautiful evergreen tree or ſhrub; with numerous, flexible, ſomewhat prickly branches; ſmooth, firm, broad leaves, having each two heart-like appendages on the pedicle; pentapetalous white flowers, ſet thick together among the leaves; and a large round yellow fruit, divided internally into eight cells, filled with a juicy pulp and whitiſh ſeeds. It is a native of the warmer climates, and ſcarcely bears the winters of ours without artificial ſhelter.

1. AURANTIUM HISPALENSE, *Pharm. Lond. & Edinb. Malus aurantia major C. B.* SEVILLE ORANGE: with dark yellow warty fruit, containing an acid juice.

THE flowers of this tree are highly odoriferous; and, on account of their fine ſmell, have been uſed in perfumes, and as a flavouring ingredient in medicinal compoſitions: their taſte is ſlightly bitteriſh. They communicate their ſmell and taſte both to water and rectified ſpirit, moſt perfectly to the latter: the watery infuſion is of a browniſh, the ſpirituous of a yellow colour. In diſtillation with water, they impregnate the aqueous fluid ſtrongly with their agreeable odour, and yield a ſmall quantity of a fragrant eſſential oil: the diſtilled water and oil, the preparations principally made uſe of, are generally brought to us from Italy and France, being rarely prepared in this country on account of the ſcarcity of the flowers. The watery decoction, inſpiſſated, yields an extract unpleaſantly

Aq. naphæ *Ph. Pariſ.*

Ol. ſeu eſſentia Neroli.

ſantly bitteriſh: an extract made by rectified ſpirit retains, along with the bitteriſh matter, a moderate ſhare of the fine flavour of the flowers.

The leaves alſo have a pleaſant though weak ſmell, and a bitteriſh taſte. Viewed againſt the light, they exhibit numerous tranſparent ſpecks, which appear to be little veſicles filled with eſſential oil. In diſtillation with water, a ſmall portion of oil ſeparates, of an agreeable flavour, but leſs ſo than that of the flowers.

The yellow rind of the fruit, carefully freed from the fungous white matter underneath, is a grateful warm aromatic bitter, of frequent uſe as a ſtomachic and corroborant, and for giving an agreeable flavour to other medicines. It is warmer than the peel of lemons, of a more durable flavour, and abounds more with a light fragrant eſſential oil; which is lodged in diſtinct cells on the ſurface of the peel, and exudes upon wounding it. It may be made into a conſerve by beating it into a pulp with triple the weight of double refined ſugar.

Conſerv. cort. exter. aurantii hiſpalens. *Ph. Lond.* Conſerva aurantiorum *Ph. Ed.*

Syrup. e cort. aurantiorum. *Ph. Lond.* & *Ed.*

Infuſed in boiling water, it gives out nearly the whole of its ſmell and taſte, together with a bright yellow tincture; eight ounces of the freſh rind give a ſtrong impregnation to four pints of water; and by diſſolving in this infuſion a proper quantity of ſugar, an agreeable ſyrup is prepared in the ſhops. Cold water, on the other hand, extracts chiefly the bitter matter, leaving the aromatic behind; hence when the freſh peel is ſteeped by the confectioners, for making a ſweetmeat, till it has loſt its bitterneſs, it ſtill retains a great ſhare of its peculiar flavour: when large quantities are macerated, a portion of oil is found floating on the ſurface, from ſome of the cells having been diſtended and burſt by the aqueous fluid.

In diſtillation with water, the eſſential oil, in which the flavour of the peel reſides, totally ariſes, leaving only the bitter matter behind in the decoction. Both the oil and diſtilled water are very grateful: a ſpirituous water, moderately impregnated with the flavour of the orange peel, by diſtilling a gallon of proof ſpirit from ſix ounces of the dry rind, is an elegant cordial: and a ſimple water, more lightly flavoured with it, by drawing over a gallon of water from four ounces of the dry peel, is an uſeful diluent in fevers, and other diſeaſes, where the ſtomach and palate are apt to receive quick diſguſt.

Rectified ſpirit of wine, digeſted on orange peel, extracts its virtues more perfectly than water, and receives from it a like yellow tincture: after the action of the ſpirit the peel remains criſp, after water tough. The ſpirit, drawn off by diſtillation, taſtes conſiderably of the peel, but diſcovers little or nothing of its ſmell: the remaining extract contains, along with its bitterneſs, great part of its aromatic flavour, but is leſs agreeable than the rind in ſubſtance.

The juice of oranges is a grateful acid, of great uſe in inflammatory and putrid diſorders both acute and chronical. Its acid matter differs in ſome of its pharmaceutical properties, both from the fermented acid of vinegar, and from the native acid ſalts of the leaves of plants, at leaſt of ſuch as have been examined; — from the former, in its not being volatile, or not exhaling upon inſpiſſating the juice, nor riſing in diſtillation with the heat of boiling water; —

from the latter, in its being ſoluble in ſpirit of wine; the inſpiſſated juice, at leaſt all its ſaline matter, diſſolving readily in this menſtruum as well as in water, and liquefying alſo in the air. Theſe properties afford commodious means of preſerving the acidity of the orange for many years; either in the form of a thick extract, or of a more dilute ſpirituous ſolution. The inſpiſſation of the juice muſt be performed with a very gentle heat, eſpecially towards the end of the proceſs, when the matter begins to grow thick, as it is then not only liable to contract an empyreuma, but at the ſame time to have great part of its acidity deſtroyed.

THE young unripe fruit, commonly called Curaſſoa apples, (*Aurantia curaſlaventia Pharm. Edinb. Aurantia enaſcentia & immatura Pharm. Pariſ.*) is a grateful aromatic bitter, of a flavour different from that of the peel of the ripe fruit, and without acidity; when freſh, it has a little tartneſs, which in drying is in great meaſure loſt. It readily gives out to rectified ſpirit the whole of its bitterneſs and flavour, together with a fine green tincture: water extracts its virtue leſs perfectly. Diſtilled with water, it yields a conſiderable quantity of yellow eſſential oil, of an agreeable and very fragrant ſmell. The ſpirit, diſtilled from the ſpirituous tincture, brings over likewiſe ſome ſhare of its flavour, leaving however the greateſt part concentrated in the extract, which proves an elegant, mild, aromatic bitter.

2. AURANTIA SINENSIS. *Aurantia dulcis. Aurantium dulci medulla vulgare Ferrant. heſperid. & Pharm. Pariſ.* CHINA or SWEET ORANGE;

with bright yellow ſmooth fruit, containing a ſweet juice.

The rind of this kind of orage has a weak ſmell, and very little bitterneſs; and is ſcarcely ever employed for any medicinal uſe. The juice, of a grateful ſubacid ſweetneſs, agrees, in its general qualities, with the *fructus horæi* of our own climate; and like them, if taken immoderately, produces gripes and fluxes. It is a uſeful refrigerant in inflammatory diſpoſitions, and an excellent antiſeptic in ſcorbutic and other putrid diſorders.

AURUM.

AURUM vel Sol Pharm. Pariſ. GOLD: a yellow metal, extremely ductile; above nineteen times heavier than water; fuſible in a low white heat; fixt and indeſtructible in the fire; not ſoluble by any of the ſimple acids, in the common ways of making ſolutions; eaſily diſſolving in a mixture of the nitrous and marine acids, called *aqua regis*, into a yellow liquor which ſtains the ſkin purple.

Eſſential oils, ſhaken with this ſolution, imbibe the gold from the acid, and carrying it up to the ſurface, keep it there for a time diſſolved; but gradually throw it off again, on ſtanding for ſome hours, in form of bright yellow films, to the ſides of the glaſs. The ether or *ſpiritus vini æthereus* takes up the gold more readily and completely, and keeps it permanently diſſolved. Rectified ſpirit of wine mingles uniformly with the acid ſolution; but on ſtanding for ſome days, the gold ſeparates from the mixture, and riſes in films to the ſurface. A piece of tin, placed in the ſolution largely diluted with water, changes it red or purple, and throws down a precipitate of the ſame colour. By the appearances reſulting from theſe additions, very minute portions of gold, diſſolved in acid liquors, may with certainty be diſcovered.

This metal is found chiefly native: in ſmall granules or filaments; intermingled among earths, or bedded in ſtones; in the mines of the Spaniſh Weſt-Indies, among the ſands of ſome of the African coaſts and of ſome European rivers, and blended with the ores of ſome other metals. According to the nature of theſe admixtures, and their degree of union with the gold, the extraction of the metal is differently effected; by ablution with water; by amalgamation with mercury; by bringing the whole matter, that contains the gold, into fuſion by fire, with the addition of proper fluxes.

Gold was introduced into medicine by the Arabians, and held to be one of the greateſt cordials and comforters of the nerves. As it apparently can have no medicinal effect in its groſs ſtate, not being diſſoluble by any fluid that can exiſt in the bodies of animals; the chemiſts have attempted to ſubtilize and reſolve it, and to extract what they called an anima or ſulphur from it. But as no means have been diſcovered of ſeparating the component parts of this metal, their tinctures and *aurum potabiles* either contained none of the gold, or were no other than diluted ſolutions of its whole ſubſtance. That the *aurum potabile* of the faculty of Paris, reckoned one of the beſt of the preparations of this kind, (made by ſhaking ſome oil of roſemary with a ſolution of gold in aqua regis, and afterwards digeſting the oil for a month in rectified ſpirit of wine) retains none of the

Tinct. auri ſeu aurum potabile *Ph. Pariſ.*

the gold, is obvious from the characters of this metal above laid down.

Solutions of gold in aqua regis are corroſive: ſo far diluted, as that they can be taken with ſafety, they are, according to Hoffman, purgative: the dry matter left upon inſpiſſating them, is a ſtrong cauſtic. The purple precipitate, made by adding pure tin to the ſolution, is ſaid to be diaphoretic: a precipitate made by alkalies is ſtrongly purgative and emetic. This laſt precipitate waſhed from the adhering ſaline matter by repeated affuſions of water, purges more moderately, though rarely without gripes, and ſometimes operates by ſweat: it has been given, from half a grain to five or ſix grains, in fevers, and in convulſive and other diſorders ariſing from, or ſupported by, crudities in the firſt paſſages: but as its operation is extremely variable, as it has often produced dangerous ſymptoms *(a)*, and as its beſt effects are no other than what may be obtained from medicines of known ſafety, it is now, in this country, entirely in diſuſe; being regarded only as a matter of curioſity, on account of its property of exploding violently when heated or ſtrongly rubbed* *(b)*.

Aurum fulminans *Ph. Pariſ.*

Some have amalgamated gold with pure quickſilver, and ſet the compound to calcine, as directed in page 151, for the calcination of mercury by itſelf, till it was converted into a red powder: others have melted the gold with twice its weight or more of martial regulus of antimony, and expoſed the powdered mixture, in a glaſs veſſel, to a moderate heat, till the powder became purple. That theſe kinds of preparations have very conſiderable medicinal virtues, is not to be queſtioned; but that thoſe virtues have any dependence upon the gold, is ſcarcely to be preſumed: all that can be rationally expected from this ingredient, is, to obtund the activity of the mercurial calx, and of the not fully calcined antimonial metal. When gold is thus divided by the admixture of other metallic bodies, and in ſome degree calcined along with them, it proves diſſoluble in one of the mineral acids which would not touch it before, to wit, ſpirit of ſalt; but the acids of the vegetable and the animal kingdom, it ſtill reſiſts as permanently as fine gold in the maſs.

(a) Ludovici, *Pharm. moderno ſeculo applicanda, diſſ.* i. *oper. p.* 102. Stahl, *Digram. de proexeucriſeos dignitate, ſect.* viii. Hoffman, *Philoſophia corp. human. morbos. par.* ii. *cap.* viii. § 13.

* (b) *Aurum fulminans* is ſtill in uſe in Germany. A late writer *(M. A. Plenciz)* recommends it in every caſe where a ſure and ſafe laxative is wanted; alledging that it does not act with the violence many practitioners have aſſerted.

BALAUSTIA.

BALAUSTIA Pharm. Lond. & Edinb. BALAUSTINES: large roſe-like flowers, of a deep red colour, ſet in long bell-ſhaped tough cups. They are the produce of the wild or double-flowered pomegranate tree, (*Granata malus Pharm. Edinb. Balauſtia flore pleno majore C. B. Punica Granatum Linn.*) a low prickly tree or ſhrub, with long narrow leaves, bearing a browniſh acerb fruit about the ſize of an orange; a native of the ſouthern parts of Europe, and cultivated in ſome of our gardens on account of the beauty and continuance of its flowers. The ſhops are uſually ſupplied with the dried flowers from abroad; thoſe of our own growth do not appear to be anywiſe inferiour to the foreign, but are not to be procured in ſufficient quantity.

Balaustine flowers are mildly aſtringent and corroborant; of a moderately rough and ſomewhat bitteriſh taſte, and of little or no ſmell, or particular flavour. They give out their aſtringent matter, together with a pale red colour, both to water and rectified ſpirit *(a): the extracts, obtained by inſpiſſating the tinctures, in which the active parts of the flower are concentrated, are pretty ſtrongly ſtyptic. The ſpirituous tincture is of a paler colour, and the extract in leſs quantity and proportionably ſtronger in taſte, than the tincture and extract made with water. The ſpirituous extract, as well as the watery infuſion, ſtrikes an inky blackneſs with ſolution of chalybeate vitriol; a proof, that the aſtringent matter of the balauſtine, after its ſeparation from greateſt part of the mucilaginous and other groſſer ſubſtances of the flower, is ſtill diſſoluble in water.

BALSAMITA.

BALSAMITA: a perennial plant, with undivided indented leaves, and yellow naked diſcous flowers ſet in form of umbels on the tops of the ſtalks; a native of the ſouthern parts of Europe, and cultivated in our gardens.

1. Balsamita mas. *Coſtus hortenſis vel tanacetum hortenſe Pharm. Pariſ. Mentha ſaracenica Officinarum Germaniæ. Mentha hortenſis corymbifera C. B. Tanacetum Balſamita Linn.* Coſtmary or alecoſt; with oval leaves.

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*(a) Scarce at all to ſpirit. *Cullen.*

2. Ageratum, *Balſamita femina, Coſtus hortorum minor, Eupatorium meſues, Herba julia, Mentha corymbifera minor. Ageratum foliis ſerratis C. B. Achillæa Ageratum Linn.* Maudlin; with numerous, ſmall, oblong, narrow leaves.

These herbs have been uſed as mild corroborants and aperients, in weakneſſes of the ſtomach, obſtructions of the viſcera, and cachectic indiſpoſitions; and though at preſent diſregarded, they promiſe, from their ſenſible qualities, to be medicines of ſome utility.

They have a moderately ſtrong pleaſant ſmell, ſomewhat approaching to that of mint, and a weakly aromatic bitteriſh taſte: the two ſorts differ a little in flavour and in taſte from one another, the firſt having the moſt of the mint ſmell, and likewiſe the greateſt bitteriſhneſs. Infuſions of them in water ſmell pretty ſtrongly, and taſte ſlightly, of the herbs: in the tinctures made with rectified ſpirit, which are of a deep green colour, the ſmell is in good meaſure covered by the menſtruum. In diſtillation with water, they yield a ſmall quantity of eſſential oil, of a pungent taſte, and which ſmells ſtrongly and agreeably of the balſamitæ; that of the ſecond ſpecies is the moſt grateful: the remaining decoction, thus deprived of the aromatic matter, is unpleaſantly, though but weakly, rough, bitter, and ſubſaline. They give over a part of their flavour alſo in diſtillation with rectified ſpirit, particularly the ſecond ſpecies, whoſe odorous matter appears to be of a more volatile kind than that of the firſt: the extracts, obtained by inſpiſſating the ſpirituous tinctures, are moderately, and not diſagreeably, warm and bitteriſh.

BALSAMUM COPAIBA.

BALSAMUM COPAIVA Pharm. Lond. Balſamum copaibæ Pharm. Edinb. Balſamum braſilienſe. BALSAM OF COPAIBA OF CAPIVI: a liquid reſinous juice, obtained from a large tree of the ſame name, *(Copaiba brazilienſibus Marcg. Arbor balſamifera brazilienſis fructu monoſpermo Raii hiſt. Copaifera officinalis Linn.)* which grows ſpontaneouſly in the woods of Brazil, and has been lately introduced into ſome of the Britiſh American iſlands. The balſam is extracted by making deep inciſions in the trunk of the tree, in the middle of the ſummer heats: if no juice flows, the wounds are for a time cloſed up. It is ſaid, that at the proper ſeaſon, ſeveral pounds of balſam iſſue in an hour or two; that one tree yields in all five or ſix gallons; but that after once bleeding, it never affords more.

The juice, as it iſſues from the tree, is limpid and colourleſs, like the diſtilled oil of turpentine. As brought to us, it is uſually of a pale yellowiſh hue, and about the conſiſtence of oil olive or a little thicker: by long keeping, it grows nearly as thick as honey, but has not been obſerved, like moſt of the other reſinous juices, to grow ſolid or dry. In all its ſtates of conſiſtency, it continues clear and tranſparent.

We ſometimes find in the ſhops, under the name of copaiba, a thick, whitiſh, almoſt opake balſam, with a quantity of turbid watery liquor at the bottom. This ſort, probably, is either adulterated by the mixture of other ſubſtances, or has been extracted, by boiling in water, from the bark or branches of the tree. It is much leſs grateful than the genuine balſam.

BALSAM of copaiba has a moderately agreeable ſmell, and a bitteriſh biting taſte, not very intenſe, but durable in the mouth. It has been employed principally, and preferably to the other balſams, in gleets, the fluor albus, and in ulcerations of the urinary paſſages and the lungs. Fuller ſays, he has known dry deep coughs, coughing up of blood and pus, voiding of chyle inſtead of urine, with great pains and weakneſs, cured by it; and that, notwithſtanding the manifeſt warmth and bitterneſs of its taſte, he has found it to agree in hectic caſes: he obſerves that it gives the urine a bitter taſte, but not a violet ſmell as the turpentines do, and that if taken in doſes of two or three drams, it proves like them, purgative. The uſual doſe is from ten to thirty or forty drops* *(a)*.

* It has been employed empirically in hæmorrhoidal caſes in doſes of from twenty to forty drops once or twice a day, mixed with powdered ſugar, and Dr. Cullen has frequently found it give relief.

This balſam, agitated with water, in ſome degree unites with it, and renders the liquor turbid and milky, but ſoon ſeparates and riſes to the ſurface on ſtanding. Dropt on ſugar, or triturated with thick mucilages, or with whites or yolks of eggs, it becomes more permanently miſcible with water into an uniform milky liquid: it is generally taken either in this form, or mixed with powdery and other matters into a bolus or electary. It mingles with oils, eaſily with the diſtilled, more difficultly with the groſs ones obtained by expreſſion. It diſſolves in rectified ſpirit of wine into a tranſparent liquor, of a fragrant ſmell, more agreeable than that of the balſam itſelf.

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* *(a)* For a cenſure of this practice, and of the uſe of the other balſams and reſins in conſumptive caſes, ſee a paper of Dr. Fothergill's in Vol. IV. of the *Lond. Med. Obſerv. and Inq.*

Diſtilled with water, it yields nearly half its weight of an eſſential oil, which when newly drawn is limpid, but by age grows yellowiſh: the part of the balſam, which remains behind in the ſtill, is a tenacious inodorous reſin, of a yellowiſh colour inclining to green. The reſin diſſolves in rectified ſpirit more eaſily than the entire balſam; the oil more difficultly, requiring, as Hoffman obſerves, near four times its weight of the menſtruum, whereas the balſam will diſſolve in twice its weight or leſs.

The balſam, diſtilled in a retort, without addition, by a fire gradually raiſed, gives over firſt a light yellow oil, ſmelling conſiderably of the juice; then a darker coloured oil, and afterwards a fine blue one, both which are of a very pungent taſte, and have little other than an empyreumatic flavour, though not of a very ungrateful kind.

BALSAMUM PERUVIANUM.

BALSAMUM PERUVIANUM, indicum, mexicanum, americanum. BALSAM OF PERU: a reſinous juice, obtained from certain odoriferous trees (*Cabureiba Piſon. Hoitziloxitl ſeu arbor balſami indici Hernand.*) growing in Peru and the warmer parts of America.

1. BALSAMUM PERUVIANUM *Pharm. Lond. & Edinb. Balſamum peruvianum nigrum, fuſcum, vulgare.* Common balſam of Peru; uſually about the conſiſtence of thin honey, and of a dark opake reddiſh brown colour inclining to black. It is ſaid to be extracted by boiling the tops and bark of the tree in water, and to be found floating on the ſurface when the liquor cools (a). The balſam, however, as brought

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(a) Monardes, *apud Cluſium, exoticorum, lib. x.*

to us, dropt into cold water, does not float, but ſinks immediately to the bottom: if a drop be let fall into water almoſt boiling hot, it ſeparates into two parts, an oily cuticle, of a very penetrating taſte, which ſpreads upon the ſurface, and a groſſer matter, in larger quantity, which ſinks. It may be preſumed therefore, that the balſam is extracted by ſome other method than that above pointed out.

This balſam does not in any degree unite with water, or render it milky or turbid, by agitation. It becomes miſcible with water, like that of copaiba, by the intervention of mucilage or yolk of eggs, but not perfectly by ſugar: when united with ſugar in a dry form, or with thick ſolutions of it, great part of the balſam ſeparates and ſubſides on diluting the mixture with water. It diſſolves in rectified ſpirit of wine, a ſmall quantity of impure matter commonly remaining: and likewiſe, by the aſſiſtance of a boiling heat, in alkaline lixivia (a). It unites readily with diſtilled oils; but not at all with expreſſed oils or with fluid animal fats, a circumſtance in which it differs remarkably from all the other reſinous juices that have been examined: after it has been blended, by trituration, with conſiſtent unctuous matters, and with wax, it ſeparates and falls to the bottom as ſoon as the mixture is made fluid by heat. Nor does it mingle very perfectly with the vegetable juices of its own kind, the native balſams and turpentines.

Diſtilled with water, it yields about one ſixteenth its weight of eſſential oil, of a reddiſh colour, a fragrant ſmell, and a very pungent taſte: this oil is remarkably difficult of ſolution in ſpirit of wine, requiring, according to Hoffman's experiments, no leſs than twelve times its own weight of the ſpirit. The balſam, diſtilled in a retort, without addition, yields a larger quantity of a yellowiſh red empyreumatic oil, and commonly, as Neumann obſerves, a ſmall portion of ſaline matter ſimilar to flowers of benzoine.

(a) Hoffman, *Diſſ. de balſamo Peruviano, cap.* ii. 11 & 23.

This juice has an agreeable aromatic ſmell, and a very hot pungent taſte. It is one of the hotteſt of the natural balſams, and hence preferred, in cold phlegmatic diſpoſitions, for warming the habit, and ſtrengthening the nervous as well as the vaſcular ſyſtem. The doſe is from two or three grains to ten or twelve. It is uſed alſo, in preference to the other balſams, externally, for wounds and ulcers: Van Swieten obſerves, that for preventing or abating the terrible ſymptoms ariſing from punctures of the nerves or tendons, one of the beſt remedies is balſam of Peru, dropt warm into the wound, and made to ſpread and penetrate by applying a warm ſpatula *(a)*. A ſolution of this balſam in rectified ſpirit, in the proportion of four ounces to a pint, is directed in the laſt edition of the London diſpenſatory.

Tinct. Balſam. Peruv. *Ph. Lond.*

2. BALSAMUM PERUVIANUM ALBUM *ſeu Styrax alba Ph. Pariſ.* White balſam of Peru, or white ſtorax; brought over in gourd ſhells; of a pale yellowiſh colour, thick and tenacious, becoming by age ſolid and brittle. It is ſuppoſed to be the produce of the ſame trees which afford the common or black balſam, and to exude from inciſions made in their trunks.

(a) Comment. in Boerh. aphoriſmos, § 164. *vol.* i. *p.* 242.

This balſam is in taſte leſs hot and pungent than the foregoing, in ſmell more fragrant and agreeable, ſomewhat approaching to that of ſtorax. It readily diſſolves in rectified ſpirit, and unites with oils both expreſſed and diſtilled, as alſo with animal fats. Dropt, in its fluid ſtate, into warm water, it ſpreads totally upon the ſurface, and forms a pellicle coheſive enough to be taken off entire *(a)*, one of the principal criteria by which the precious balſam of Gilead has been diſtinguiſhed. It is rarely met with in the ſhops.

BALSAMUM TOLUTANUM.

BALSAMUM TOLUTANUM Pharm. Lond. & Edinb. BALSAM OF TOLU: a reſinous juice; flowing from inciſions made in the trunk of a tree ſaid to reſemble the pine, *(Toluifera Balſamum Lin.)* growing in the province of Tolu in the Spaniſh Weſt Indies *(b)*, from whence the balſam is brought to us in little gourd ſhells. It is of a yellowiſh brown colour inclining to red, in conſiſtence uſually thick and tenacious: by age it grows hard and brittle, without ſuffering any great loſs of its odoriferous parts.

THIS balſam has an extremely fragrant ſmell, ſomewhat reſembling that of lemons; and an agreeable, warm, ſweetiſh taſte, very ſlightly pungent, and not accompanied, like that of moſt of the other balſams, with any nauſeous reliſh. It poſſeſſes the ſame general virtues with thoſe of Peru and copaiba, differing only in being

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(a) Bartholin, *Diſſ. de theriaca*, ii. 26.

(b) Monardes, *apud Cluſium, exoticorum, lib.* x.

milder, leſs hot or irritating, and more grateful to the ſtomach as well as the palate.

Boiled in water for two or three hours, in a circulatory veſſel, or in a matraſs with a very long neck, or having a long tube inſerted into its mouth, ſo as to prevent evaporation, it communicates to the liquor great part of its fragrance: eight ounces of the balſam give a ſtrong impregnation to three pints of water: the decoction ſtrained off from the undiſſolved reſin, forms, with a proper quantity of ſugar, an elegant balſamic ſyrup. The balſam diſſolves totally in rectified ſpirit of wine, and in this form may be mixed in ſubſtance with ſyrups, ſo as to impregnate a much larger quantity of them with its fine flavour: forty-five grains of the balſam, diſſolved in an ounce of pure ſpirit, are ſufficient for two pounds of a ſimple flavourleſs ſyrup made from ſugar and water: the ſolution is to be ſtirred gradually into the ſyrup juſt warm from the fire, and the mixture kept in the gentle heat of a water bath till the ſpirit has exhaled. This balſam may likewiſe be diſſolved in water, into a milky liquor, by trituration with gums or mucilages. It unites readily with diſtilled oils, more difficultly with expreſſed oils and with fats.

Syrup. tolutanus *Ph. Lond.*

Tinct. balſam. tolut. *Ph. Lond.*

Tinct. tolutana *Ph. Ed.*

Syrup. balſamic. *Ph. Ed.*

In diſtillation with water, it impregnates the liquor ſtrongly with its fragrance; and this, perhaps, is the moſt advantageous method of obtaining its ſimple odoriferous matter in the form of a watery ſolution: if the quantity of balſam, ſubmitted to the diſtillation, be large, a ſmall proportion of a very fragrant eſſential oil may be collected. Diſtilled in a retort, without addition, it yields a pale and a dark coloured empyreumatic oil, and ſometimes a ſmall quantity of a kind of ſaline matter, of the ſame nature with flowers of benzoine.

BAMIA.

BAMIA MOSCHATA Pharm. Pariſ. Ab-el-moſch, i. e. granum moſchi. Semen ketmiæ ægyptiacæ. MUSK-SEED: flat, kidney-ſhaped ſtriated ſeeds, about the ſize of a large pin's head, of a greyiſh or browniſh colour on the outſide, and white within: produced by a ſhrubby plant, of the mallow kind, *alcea ægyptiaca villoſa C. B. Hibiſcus Abelmoſchus Linn.* a native of Egypt, and of the Eaſt and Weſt Indies.

THESE ſeeds have a fragrant ſmell, approaching to that of muſk, and a ſlight aromatic bitteriſh taſte. They are uſed in perfumes, and ſeem to have a claim, as medicines, to the cordial and nervine virtues experienced from moſt of the other ſubſtances of that claſs. They are ranked in France among the officinals, but are rarely to be met with among us.

BARDANA.

BARDANA, Pharm. Lond. & Edinb. Lappa major, arcium dioſcoridis C. B. Perſonata ſive lappa major aut bardana J. B. Arctium Lappa Linn. BURDOCK: a biennial plant, common by road ſides, ſufficiently known by its ſcaly heads or burs; the leaves are very large, ſhaped ſomewhat like a heart, of a deep green colour above and whitiſh underneath: the ſeeds flatted, nearly oval, ſomewhat crooked, ſlightly ſtriated, of a dark brown or blackiſh colour: the root large, ſtraight, browniſh on the outſide and white within, compoſed of a thick cortical part, and a ſpongy medullary ſubſtance, with more or leſs of a woody ſeptum between them.

The roots of burdock have very little ſmell, and a weak taſte, chiefly ſweetiſh, mixed as it were with a ſlight bitteriſhneſs and roughneſs. Boiled in water, they impart a browniſh colour, and a ſoft vapid kind of taſte: extracts made from them, both by water and by rectified ſpirit, are weakly ſweetiſh, bitteriſh, ſubaſtringent, and ſubſaline. Theſe roots are recommended as mild diuretics, diaphoretics, and ſweeteners, in ſcorbutic, rheumatic, gouty, and venereal diſorders; and are ſuppoſed to be of ſimilar virtue to china and ſarſaparilla; to which, in their ſenſible qualities, they have a conſiderable reſemblance. They are uſed chiefly, and to the beſt advantage, in the form of decoction: two ounces of the dried root are boiled in three pints of water, till one pint is waſted, and a pint or more of the ſtrained liquor taken warm every day.

Decoctum bardanæ *Noſocom. Ed*

The expreſſed juice of the leaves has been ſometimes given, to the quantity of a quarter of a pint or more, in the ſame intentions. The leaves are bitter and more ſaline than the roots, and have nothing of their ſweetiſhneſs: the juice, depurated, and inſpiſſated to the conſiſtence of an extract, diſcovers a moderately ſtrong penetrating, ſaline bitterneſs.

The ſeeds alſo are bitteriſh and ſlightly aromatic; and have been given, in doſes of a dram, as a diuretic, and as an aperient in diſorders of the breaſt. They are ſaid be purgative. A good deal of care is requiſite, to clear them thoroughly from the prickly matter with which they are covered, and which, if ſwallowed, immediately diſcovers how much it offends the parts it paſſes through, by the uneaſy ſenſations it produces in the throat (a).

BDELLIUM.

BDELLIUM: a gummy-reſinous juice; the produce of an oriental tree, of which we have no particular deſcription; brought from Arabia and the Eaſt Indies, in pieces of different magnitudes and figures, externally of a dark reddiſh brown colour not unlike myrrh, internally clear and ſomewhat reſembling glue.

This gummy-reſin has a moderately agreeable ſmell, and a bitteriſh ſlightly pungent taſte. It grows ſoft and tenacious in the mouth, and ſticks to the teeth. Laid on a red-hot iron, it readily catches flame, and burns with a crackling noiſe; during which, little ſtreams of liquid matter ooze out at the ſurface. Both water and rectified ſpirit diſſolve, each, near one half of the bdellium: the ſpirituous tincture, of a tranſparent reddiſh yellow or orange colour, taſtes ſtronger and ſmells more agreeably of the bdellium, than the watery infuſion, which is turbid and browniſh. Geoffroy relates, that its whole ſubſtance is diſſolved by wine, vinegar, tartarized ſpirit of wine, and alkaline liquors: the active matter of the bdellium is indeed extracted by all theſe menſtrua, but the three firſt were found upon trial to leave a conſiderable part of its ſubſtance undiſſolved: proof ſpirit took up nearly the whole. In diſtillation with water, it impregnates the aqueous fluid weakly with its flavour; nor is there any appearance of eſſential oil, at leaſt when only ſmall quantities, as three or four ounces, are ſubmitted to the operation. The diſtilled ſpirit has very little flavour of the bdellium; nevertheleſs, the ſpirituous extract proves weaker, both in ſmell and taſte, than the juice in ſubſtance, its active parts being probably enveloped, in this preparation, by the tenacious reſin.

(a) Boerhaave, *Hiſt. plant. hort. Lugd. Bat. p.* 205.

This gummy-reſin ſtands recommended, as a corroborant and attenuant, in diſorders of the breaſt, for promoting urine and the menſes; and externally for reſolving or maturating hard tumours. It appears to be one of the weakeſt of the deobſtruent gums, and is at preſent rarely made uſe of.

BECABUNGA.

BECABUNGA Pharm. Lond. Anagallis aquatica minor folio ſubrotundo C. B. Veronica aquatica folio ſubrotundo Moriſon. hiſt. Veronica Becabunga Linn. BROOKLIME or WATER PIMPERNEL: a low creeping plant; with round thick ſmooth reddiſh ſtalks, naked and procumbent at bottom, erect at top, and clothed with roundiſh firm juicy leaves, of a dark ſhining green colour, ſlightly indented about the edges, ſet in pairs at the joints: from the boſoms of the leaves ariſe naked footſtalks, bearing ſpikes of blue flowers which are deeply cut into four ſegments and followed by flattiſh ſeed-veſſels. It is common in rivulets and ditches, and flowers in June: the leaves remain all the winter, but are in greateſt perfection in the ſpring.

This herb is ranked among the antiſcorbutics, and ſuppoſed to poſſeſs, in ſome degree, the virtues of the *cochlearia* and *naſturtium*. It is chiefly employed in conjunction with theſe and the other acrid antiſcorbutic herbs, to which it appears to be an uſeful addition, though not entirely ſimilar to them in quality. It has nothing of the ſubtile volatile ſmell of the plants of the ſcurvygraſs kind, and diſcovers hardly any pungency to the taſte; what taſte it has being rather ſubſaline and bitteriſh than acrid.

BELLIS MAJOR.

BUPTHALMUM MAJUS; *Leucanthemum vulgare*; *Conſolida media*; *Oculus bovis. Bellis ſylveſtris caule folioſo major C. B. Chryſanthemum Leucanthemum Linn.* Greater or oxeye daisy; a plant with oblong narrow deeply indented leaves, joined cloſe to the ſtalks, which are pentagonal, hairy, branched, and bear on the tops pretty large ſolitary flowers compoſed of white petala ſet round a yellow diſk. It is perennial, grows wild in corn fields and dry paſture grounds, and flowers in May and June.

The leaves of this plant have been recommended in diſorders of the breaſt, both aſthmatical and phthiſical, and as diuretics. Geoffroy relates, that the herb, gathered before the flowers have come forth, and boiled in water, imparts an acrid taſte, penetrating and ſubtile like pepper; and that this decoction is an excellent diuretic and vulnerary. Either this experiment was made, not with the *bellis major*, but with the *bellis minor*; or elſe the herb loſes its pungency when the flowers appear: the *bellis minor* is manifeſtly acrid, but in the *major*, when in flower, no acrimony could be obſerved: the leaves, whilſt freſh, ſeemed little other than herbaceous; when dried, they diſcovered to the palate a not ungrateful mucilaginous ſweetneſs.

BELLIS MINOR.

BELLIS ſylveſtris minor C. B. Bellis perennis Linn. COMMON DAISY: a low ſomewhat hairy plant, with oblong leaves lying on the ground, widening from the root to the extremity, which is rounded: among theſe ariſe round ſlender naked pedicles, bearing ſolitary flowers compoſed of white or purpliſh petala ſet round a yellow diſk. It is perennial, common almoſt every where, and flowers early in the ſpring.

THIS plant ſtands recommended as a vulnerary, detergent, and reſolvent; in diſeaſes of the breaſt, internal bruiſes, hypochondriacal complaints, and diſorders proceeding from the drinking of cold liquors when the body has been much heated. Schrœder informs us, that the leaves and flowers looſen the belly.

The leaves, which have been chiefly made uſe of, are in taſte ſlightly acrid. The roots are conſiderably ſtronger, of a ſubtile penetrating pungency, not hot or fiery, but ſomewhat of the contrayerva kind; and though at preſent diſregarded, promiſe to be a medicine of no ſmall virtue. Their pungent matter is not diſſipated in drying, is diſſolved both by water and ſpirit, and on inſpiſſating the ſolutions is left in great part behind, in the watery, as well as in the ſpirituous extract. No part of the plant has any remarkable ſmell.

BEN.

BEN, ſive Balanus myrepſica, Pharm. Pariſ. Behen. Glans unguentaria. BEN NUT: a whitiſh nut, about the ſize of a ſmall filberd, of a roundiſh triangular ſhape, including a kernel of the ſame figure covered with a white ſkin. It is the produce of a middle-ſized tree, ſaid to reſemble the birch, and to grow ſpontaneouſly in the Eaſt Indies and in America. It is the *Guilandina Moringa* of Linnæus; and the ſame the wood of which is called *Lignum Nephriticum.*

THESE kernels have a nauſeous oily bitter taſte; and when taken internally, are ſaid to diſorder the ſtomach, and occaſion purging, ſickneſs, and vomiting. On expreſſion, they yield about one fourth their weight of a yellowiſh oil, of ſcarcely any particular taſte or ſmell; the nauſeous bitter matter remaining behind, not ſoluble in oily menſtrua. This oil differs from moſt of the others of the expreſſed kind, in not being ſubject to grow rancid by long keeping; on account of which property, it is employed as a baſis for perfumes and odoriferous unguents. It coagulates in a ſlight degree of cold. It is impregnated with the fragrance of jaſmin and other flowers, by ſtratifying them with cotton dipt in the oil, and repeating the proceſs with freſh flowers, till the oil becomes ſufficiently odorous, after which it is ſqueezed out from the cotton in a preſs.

BENZOINUM.

BENZOE Pharm. Lond. Benzoinum Pharm. Edinb. Benjoinum; Benzoe; Aſa dulcis. BEN-

ZOINE OR BENJAMIN: a concrete reſinous juice, obtained from a middle-ſized tree, called by Dr. Dryander in Phil. Tranſ. vol. LXXVII. part II. *Styrax Benzoë*, foliis oblongis acuminatis ſubtus tomentoſis, racemis compoſitis longitudine foliorum. This tree is a native of the Eaſt Indies, where the benzoine is extracted by making deep inciſions in the upper part of the trunk, about the origin of the firſt branches: it is ſaid that one tree never yields above three pounds *(a)*. The juice exudes white, and concreting on the tree becomes yellowiſh, reddiſh, or browniſh; its colour turning darker, the longer it lies expoſed to the air. It is brought to us in large brittle maſſes, compoſed partly of white, partly of yellowiſh or light brown, and often alſo of darker coloured pieces: that which is cleareſt and contains the moſt white matter, called by authors *benzoe amygdaloides*, is accounted the beſt.

This reſin has very little taſte, impreſſing on the palate only a ſlight ſweetneſs: its ſmell, eſpecially when rubbed or heated, is extremely fragrant and agreeable. It totally diſſolves in rectified ſpirit of wine, the impurities excepted, which are generally in very ſmall quantity, into a deep yellowiſh red liquor; and in this ſtate diſcovers to the taſte a degree of warmth and pungency as well as ſweetneſs. It imparts, by digeſtion, to water alſo, a conſiderable ſhare of its fragrance, and a ſlight pungency: the filtered liquor, gently exhaled, leaves, not a reſinous or mucilaginous extract, but a cryſtalline matter, ſeemingly of a ſaline nature,

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(a) Grimm, *Act. nat. curioſ. dec.* ii. *ann.* 2. *obſ.* 152. Rumph. *Herbarium amboinenſe.*

amounting, as I have found on ſeveral trials, to one tenth or one eighth the weight of the benzoine.

Flores benzoes *Ph. Lond.* benzoini, *Ph. Ed.*

Expoſed to a gentle heat, in a retort or other proper veſſel, it melts, and ſends up into the neck white ſhining flowers, ſimilar to the cryſtals obtained by water. Theſe are followed by a thin yellowiſh oil, ſlightly empyreumatic, intermingled with an acidulous liquor; and at length, by a thick butyraceous matter, which, liquefied in boiling water, gives out to it a little more cryſtalline matter, ſeparable by filtration and proper evaporation: the whole quantity of ſaline matter obtainable by this method is ſomewhat greater than that extracted by boiling the benzoine in water. The thin oil, rediſtilled with water, loſes its empyreumatic taint, and in this ſtate ſmells agreeably of the benzoine, and appears of the ſame nature with eſſential oils: the benzoine itſelf, diſtilled with water, has not been obſerved, like moſt of the other reſinous juices, to yield any eſſential oil.

The flowers or cryſtals of benzoine have a grateful ſaline taſte, and partake of the fragrance of the reſin. They diſſolve in ſpirit of wine; and, by the aſſiſtance of heat, in water; but from this laſt, they ſeparate again, in great part, as the liquor cools, ſhooting into ſaline ſpicula, which unite together into irregular maſſes: the addition of ſo much ſugar, as will reduce the water to the conſiſtence of a ſyrup, prevents their ſeparation, the flowers continuing ſuſpended in the ſyrup after it has grown cold. Diſtilled with water, they ariſe entire, concreting into their original form, without communicating any ſmell or taſte to the diſtilled liquor.

Theſe flowers, unleſs ſublimed with a very gentle heat, are apt to be tainted with an empyreumatic ſmell, and a yellow colour, on account of a little of the oil being forced up with them. From this they may be purified, by mixing them with ſome dry tobacco-pipe clay, and ſubliming them afreſh; or perhaps more perfectly, by ſolution in water, filtration, and cryſtallization. Though purified, however, to a ſnowy whiteneſs, they ſtill participate of oil, and hence prove inflammable in the fire, and are ſubject, in long keeping, to grow yellow again. They grow ſooner yellow in cloſe veſſels, than in open ones; the oil, in the latter caſe, being perhaps carried off by the air in proportion as it is extricated from the ſaline matter.

The principal uſe of this fragrant reſin is in perfumes, and as a coſmetic; for which laſt purpoſe, a ſolution of it in ſpirit of wine is mixed with ſo much water as is ſufficient to render it milky, as twenty times its quantity or more. Lac virginis. It promiſes, however, to be applicable to other uſes, and to approach in virtue, as in fragrance, to ſtorax and balſam of Tolu. It is ſaid to be of great ſervice in diſorders of the breaſt, for reſolving obſtructions of the pulmonary veſſels, and promoting expectoration: in which intentions the flowers are ſometimes given, from three or four grains to fifteen. The white powder, precipitated by water from ſolutions of the benzoine in ſpirit, has been employed by ſome as ſimilar and ſuperiour to the flowers, but appears to be little other than the pure benzoine in ſubſtance: it is not the ſaline but the reſinous matter of the benzoine, that is moſt diſpoſed to be precipitated from

Magiſter. benzoini *Ph. Bran. &c.*

ſpirit by water. The flowers, ſnuffed up the noſe, are ſaid to be a powerful errhine.

BERBERIS.

BERBERIS ſeu Oxyacantha galeni. Berberis dumetorum C. B. Berberis vulgaris Linn. Spina acida; Creſpinus. BARBERRY: a large prickly buſh, with brittle branches, covered with an aſh-coloured bark, under which lies another of a deep yellow; ſmall, ſmooth, ſomewhat oval, pale green leaves, finely ſerrated about the edges, and yellow monopetalous flowers, ſtanding in cluſters on the tops upon naked footſtalks, followed by oblong red berries, containing, each, generally two ſeeds: ſome of the individuals have no ſeeds in their berries, and ſometimes berries with and without ſeeds are found on one buſh. It grows wild on chalky hills in ſeveral parts of England, flowers in May, and ripens its fruit in September.

THE fruit of this ſhrub is a mild reſtringent acid, acceptable to the ſtomach, and of great medicinal efficacy in hot bilious diſorders and a colliquative or putrid diſpoſition of the humours. Proſper Alpinus informs us, that the Egyptians employ, in ardent and peſtilential fevers and in fluxes, a diluted juice of the berries, prepared by macerating them in about twelve times their quantity of water, for a day or a night, with the addition of a little fennel ſeed or a piece of bread, and then preſſing out and ſtraining the liquor, which is ſweetened with ſugar, or ſugar of roſes, or ſyrup of citrons, and given the patient plentifully to drink: he ſays he took this medicine himſelf, with happy ſucceſs, in a peſtilential fever, accompanied with an immoderate bilious diarrhœa (a). Simon Paulli relates, that he was cured of a like diſeaſe, by the uſe of ſyrup of barberries diluted with water; and that a concrete ſalt, which he calls tartar, may be obtained from the juice, by mixing two pounds of it with two ounces of lemon juice, digeſting them together in a ſand-heat for two days, then gently evaporating the filtered liquor to one half, and ſetting it in a cellar for ſome days: the tartar, he ſays, incruſtates the ſides and bottom of the glaſs, proves very grateful both to the palate and ſtomach, and reſiſts febrile heat and the corruption of the humours; from whence it may be preſumed to be the eſſential *acid* ſalt of the fruit; by further inſpiſſating the remaining juice, more of this ſaline ſubſtance ſeparates in the ſame manner. Among us, theſe berries are commonly made into a gelly, by boiling them with an equal weight of fine ſugar, over a gentle fire, to a due conſiſtence, and then ſtraining the fluid through a woollen cloth. By drying the berries, their acidity is abated, and their aſtringency improved.

The leaves of the barberry buſh have likewiſe a not ungrateful reſtringent acid taſte, and have ſometimes been employed in the ſame intentions as the fruit, as an ingredient in cooling ſalads. The inner yellow bark, in taſte auſtere and bitteriſh, is ſaid to be gently purgative, and to be ſerviceable in jaundices: Mr. Ray commends, in this diſeaſe, from his own experience, a decoction in ale or other liquors, or rather an infuſion in white wine, of the yellow bark both of the branches and the roots. It gives a deep yellow tincture both to watery and ſpirituous menſtrua.

(a) Alpinus, *De medicina Ægyptiorum, lib.* iv. *cap.* i.

B E T A.

BETA vulgaris Linn. Beet: a plant with large, ſmooth, broad-ribbed, juicy leaves; and ſlender, ſtriated, branched ſtalks; bearing ſpikes of imperfect flowers ſtanding in five-leaved cups, followed each by a roundiſh, rough, warty ſeed-veſſel. Different ſorts of this plant, ſuppoſed by Linnæus to be varieties of the wild beet found on ſome of the ſea coaſts of England and Holland, are cultivated in our culinary gardens: a whitiſh-leaved called *ſicula* or *cicla*, a green-leaved, and a reddiſh-leaved, all with long thick white roots; and a long-rooted, and a turnep-rooted, all over red. They are all biennial.

Beets, uſed as food, are difficult of digeſtion, and afford little nouriſhment: taken in quantity, they tend to looſen the belly, and are ſuppoſed by ſome to be prejudicial to the ſtomach. Their emollient or laxative virtue is extracted by boiling in water, and may be concentrated, though not without conſiderable diminution, by inſpiſſating the decoction. The red ſorts give out their colour along with their aqueous juice upon expreſſion, and by infuſion tinge rectified ſpirit as well as water of a deep red. The juice, both of the roots and the leaves, of the red and the white beets, ſnuffed up the noſe, is ſaid to be a powerful errhine, occaſioning a copious diſcharge of mucus without provoking ſneezing.

The roots of the beets have, when dry, an agreeable ſweetiſh taſte, which is totally extracted by boiling in rectified ſpirit: the tinctures, on ſtanding ſome weeks in a cool place, depoſite whitiſh ſaline concretions, of a ſaccharine ſweetneſs. Mr. Marggraf obſerves, that the red beet loſes in drying ſeven eighths of its weight, and the white ſix eighths; that the dry beet root yields nearly one twenty-ſixth its weight of the ſaccharine ſalt, and the white ſort one ſixteenth; and that a good ſugar is obtainable from the juice of the freſh roots, by the method practiſed abroad for preparing it from the ſugar cane *(a)*.

BETONICA.

BETONICA purpurea C. B. Betonica officinalis Linn. Vetonica Cordi. BETONY, or wood-betony: a low plant, with dark green, oblong, wrinkled, crenated, ſomewhat hairy leaves, ſet in pairs; and ſquare unbranched ſtalks; bearing thick ſpikes of labiated purpliſh flowers, each of which is followed by four oblong triangular ſeeds incloſed in the flower cup. It grows wild in woody and ſhady places, flowers in June and July, and in winter dies to the ground, the roots continuing.

THIS herb is recommended as a corroborant and aperient; in obſtructions of the viſcera; in catarrhal, vertiginous, paralytic, hyſteric, and other diſorders both of the nervous and the vaſcular ſyſtem. Its virtues have, by many practical writers, been greatly exaggerated; thoſe of the more efficacious medicines to which it was joined, as rue, mint, cloves, guaiacum, and others, being often placed to the account of this favourite ingredient.

(a) Mem. de l'acad. des ſcienc. de Berlin, pour l'ann. 1749.

The leaves and tops of betony have an agreeable but weak ſmell, which in keeping is ſoon diſſipated: to the taſte, they diſcover a ſlight warmth, roughiſhneſs and bitteriſhneſs. The powder of the dry leaves, ſnuffed up the noſe, provokes ſneezing, and hence is ſometimes made an ingredient in ſternutatory compoſitions.

Infuſions of the leaves in boiling water ſmell and taſte lightly, and not ungratefully of the herb: on inſpiſſating them, the ſpecific flavour of the betony is diſſipated, and only a weak bitteriſhneſs and a kind of ſaline auſterity remain in the extract. The vapour which exhales in the boiling, caught in diſtilling veſſels, is lightly impregnated with the ſmell of the betony: when large quantities are diſtilled at once, a very ſmall portion of eſſential oil ſeparates, in colour yellowiſh, in taſte moderately warm and pungent, and in ſmell pretty ſtrong, but ſomewhat leſs grateful than the herb in ſubſtance. Spirituous tinctures, in colour deep green, diſcover rather leſs of the ſmell and taſte of the betony than the watery infuſions, though the ſpirit extracts all the active parts of the herb. On inſpiſſating the filtered tinctures, a conſiderable part of the odorous matter exhales: the remaining extract has little ſmell, and a weakly pungent, bitteriſh, aromatic taſte.

The roots are ſaid to be very different in quality from the other parts of the plant; to be nauſeous, bitter, purgative, and emetic *(a)*.

(a) L'Obel, *Adverſaria, p.* 229. Ray, *Hiſt. plant. p.* 551. Caſpar Hoffman, *De med. officinal. lib.* ii. *cap.* xxxvii. § 6.

BETULA.

BETULA C. B. Betula alba Linn. BIRCH: a tree or ſhrub, common in moiſt woods; with numerous very flexible branches; and ſomewhat oval, ſharp pointed, ſerrated, deep green leaves, hanging on long and weak pedicles; producing ſmall ſcaly cones, which contain little winged ſeeds. The bark, which appears externally white and chapt, conſiſts of a thick brittle ſubſtance, of a dark browniſh red colour, covered with three or four whitiſh, very thin, ſmooth, flexible, tough, ſemitranſparent, membranous coats.

ON deeply wounding or boring the trunk of the birch tree early in the ſpring, there iſſues by degrees a very large quantity of a limpid, watery, ſweetiſh juice. It is ſaid, that one tree will bleed a gallon or two in a day; that the juice extracted near the root is much more watery, and of leſs taſte, than that obtained from the upper part of the trunk or from the branches; and that after the leaves have begun to appear, the juice loſes its ſweetneſs and becomes diſagreeable. This juice has been drank as an antiſcorbutic and deobſtruent. It ſenſibly promotes urine, and if taken freely, looſens the belly. In keeping, it ſoon turns ſour, unleſs defended from the air, by covering its ſurface with a little oil: by fermentation, it is converted into a weak vinous liquor. Inſpiſſated to the conſiſtence of a thin ſyrup, and ſet in a cool place for ſome weeks, it yields browniſh ſaline concretions, approaching, as Marggraf obſerves, to the nature of manna.

The leaves and the bark of the tree have been employed, chiefly externally, as reſolvents,

detergents,

detergents, and antiſeptics. Simon Paulli relates, that an univerſal pruriginous ſcabies, which had been received by infection, was cured by bathing with a decoction of the bark and young branches, in which ſome nitre and tartar had been diſſolved. With regard to the leaves, they diſcover to the touch a reſinous unctuoſity, and to the taſte an unpleaſant bitterneſs; rubbed a little, they yield a pretty ſtrong, and not diſagreeable, ſmell. The bark has no ſmell: the thin membranes have no taſte; the thicker brittle part has a ſlight roughiſh one. This laſt gives a pale yellowiſh tincture to rectified ſpirit, and a deep yellowiſh red to water: the watery infuſion ſtrikes a browniſh black colour with ſolution of chalybeate vitriol, but immediately throws off the colouring matter and becomes limpid, whereas the generality of theſe kinds of black mixtures retain their blackneſs for a length of time: on inſpiſſating the infuſion, the remaining extract proves moderately auſtere.

The bark of this tree has been recommended alſo in fumigations, for correcting contagious air. The membranes are highly inflammable, in burning yield no particular ſmell, and give out a reſinous exudation of no ſmell or taſte. The brittle part is leſs inflammable, emits a ſtrong acid vapour, and no reſin.

BEZOAR.

BEZOAR: a preternatural or morbid concretion, formed in the bodies of land animals. Several of theſe kinds of ſubſtances have been uſed medicinally, and diſtinguiſhed either by the names of the countries from whence they are brought, or of the animals in which they are generated.

1. Lapis bezoar orientalis. Oriental bezoar ſtone: ſuppoſed to be produced in the pylorus, or in a cavity at the bottom of the fourth ſtomach, of an animal of the goat kind, which inhabits the mountains in different parts of Perſia. It is ſaid, that the bezoar is found only in the old animals, only in thoſe which feed on ſome particular mountains, as the eaſtern one of the tract called Benna in the province of Laar, and only in a few of theſe; and that, though of great value in Europe, it is of greater in Perſia itſelf; from whence it has been inferred, that the generality of the ſtones, ſold under this name in Europe, muſt be of another original (a). Thus much is certain, that artificial compounds have been often ſubſtituted in the room of this coſtly concretion.

The genuine oriental bezoar of the ſhops is about the ſize of a kidney-bean (b), of a roundiſh or oblong rounded figure, of an even ſmooth ſurface, and of a ſhining olive or dark greeniſh colour: on being broken, it appears compoſed of a number of concentrical coats, of which the inner are ſmooth and gloſſy as the outer: in the middle is either a cavity, or ſome powdery matter, or ſome ſmall bits of the leaves or ſtalks of plants, or other like ſubſtances. The common marks of its genuineneſs are, its ſtriking a yellow or green colour on white paper that has been rubbed with chalk; a red-hot needle not piercing into it, or occaſioning any bubbles, but either making no impreſſion at all, or at moſt taking off only a little ſcale or cruſt; and its ſuffering no diminution of its weight, or diſunion of its parts, by ſteeping in water.

(a) Kæmpfer, *Amænitates exoticæ, p.* 398 *& ſeqq.* Slare, *Diſſertation on bezoar.* Neumann, *Chemical works, p.* 534.

(b) Mercatus, (*Metallotheca, armar.* viii. *cap.* i. *p.* 173.) deſcribes a ſtone of this kind (preſented by the king of Portugal to cardinal Alexandrinus) weighing four ounces; ſo that if equally compact as the common bezoar (whoſe gravity is to that of water nearly as one and half to one) its volume muſt have been about five cubic inches.

The genuine ſtone has no manifeſt ſmell (a) or taſte; and is not ſenſibly acted on by rectified ſpirit any more than by water. Reduced into an impalpable powder, it retains its greeniſh hue; which, by moiſtening the powder, in levigation, with a little ſpirit of wine, is ſomewhat improved. The powder agitated with water or ſpirit, ſubſides uniformly and totally; leaving no greeniſh matter diſſolved in the liquors, as thoſe powders do, in which the bezoar tincture has been imitated by certain vegetable matters. The powdered bezoar diſſolves almoſt totally, and with conſiderable effervescence, in the acids of nitre, and of ſea ſalt; and tinges them of a deep yellow or red colour. The vitriolic acid raiſes a ſlight effervescence with it, but diſſolves exceeding little. Vinegar likewiſe acts on it very weakly.

Bezoar was formerly accounted a high alexipharmac; inſomuch that the other medicines, poſſeſſed, or ſuppoſed to be poſſeſſed, of alexipharmac powers, have been denominated from it *bezoardics*. It appears, however, that this notion, adopted from the Arabian ſchools, has no juſt foundation; and that this calculous concrete, which lies inactive and indigeſtible in the ſtomach of the animal in which it is produced, is equally indiſſoluble and inactive in the human ſtomach, unleſs where either a morbid acid is generated in the body, which is rarely the caſe in the acute diſeaſes wherein bezoar has been chiefly given, or acid liquors are taken along with it. Solutions of it in the nitrous or marine acids, given in doſes of a few drops with proper diluents, the form in which it was uſed by Kæmpfer, may, doubtleſs, be of ſervice in acute diſeaſes, as antiſeptic and antiphlogiſtic ſaline compounds; though not more ſo than ſolutions of the common teſtaceous earths. The bezoar in ſubſtance can have no other ſalutary operation than as an abſorbent of acid humours; and appears, from experiment, to be the moſt weakly abſorbent, or the moſt difficultly acted on by animal and vegetable acids, of all the earthy bodies commonly made uſe of in this intention.

(a) The ſlight ambergris ſmell, perceivable in ſome of the oriental bezoars, is ſuppoſed to be introduced by art: Cartheuſer looks upon thoſe which have this ſmell as being wholly factitious (*Rudimenta m. m.* i. 214.)

2. Bezoard occidentalis *Pharm. Pariſ.* Occidental bezoar: ſaid to be found in the ſtomach of an animal of the ſtag kind, a native of Peru and ſome other parts of the Spaniſh Weſt Indies. It is larger than the oriental, from the ſize of a walnut to that of a hen's egg or more *(a)*: its ſurface is rough, and the colour leſs green, being often greyiſh or browniſh without any greenneſs: it is likewiſe more brittle, of a looſer texture, compoſed of thicker coats, and exhibits, when broken, a number of fine cryſtalline ſtriæ curiouſly interwoven. It is leſs eſteemed than the foregoing; though apparently

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(a) There are accounts of occidental bezoars of much larger ſizes: Mercatus *(ubi ſupra, p.* 174, 175.) deſcribes and figures a ſtone of this kind weighing no leſs than fifty-ſix ounces, though part of the outer cruſts had been removed.

apparently not inferiour, ſo far as is known, in any reſpect that can influence its virtue as a medicine.

3. Lapis simiæ *ſeu bézoard ſimiæ Pharm. Pariſ.* Bezoar of the monkey: ſaid to be found in the ſtomach of certain monkies; which are common in the Braſils, and in ſome parts of the Eaſt Indies, but which very rarely produce the admired ſtone. This ſpecies is about the ſize of a hazel nut, harder than the other bezoars, and of a very dark greeniſh colour almoſt black. Its great ſcarcity has rendered it of more value, and, among ſome, of more medicinal eſtimation, than the two foregoing, but prevented its having a place in the ſhops.

4. Calculus humanus, *bezoar microcoſmicum quibuſdam dictus.* The calculus of the human bladder. This concrete is various in degree of hardneſs, as well as in appearance, figure, and ſize: the ſofter maſſes are for the moſt part pretty eaſily, the harder more difficultly, diſſolved, in part at leaſt, by acids, and corroded by ſoap leys and lime-water: other menſtrua for them are not known. Some have employed this ſtone as a ſuccedaneum, and even in preference, to the foregoing coſtly bodies, and report that they have found it to act as an excellent ſudorific and diuretic *(a)*; aſcribing to the ſtony matter the effects of the theriaca, oil of amber, and oil of juniper berries, with which it was joined.

5. Lapis porcinus *Pharm. Pariſ. Lapis malacenſis. Bezoar hyſtricis. Pedro del porco.*

(a) Bontius, *Animadverſiones in Garciam, lib.* i. *cap.* 46.

Bezoar of the porcupine: ſaid to be found in the gall-bladder of an Indian porcupine, particularly in the province of Malacca. It is of a roundiſh figure, of a pale purpliſh colour, of a ſoft ſubſtance, ſmooth and ſlippery to the touch (*a*). This concrete is of a very different nature from the four preceding: it has an intenſely bitter taſte, and, on being ſteeped in water for a very little time, impregnates the fluid with its bitterneſs, and with aperient, ſtomachic, and, as is ſuppoſed, with alexipharmac virtues. How far it differs in virtue from the ſimilar concretions found in the gall-bladder of the ox and other animals, does not appear.

BISMUTHUM.

BISMUTHUM ſive marcaſita Pharm. Pariſ. Bismuth or tin-glass: a bright whitiſh pulverable metal; near ten times ſpecifically heavier than water; melting long before ignition, a little ſooner than lead, and a little later than tin; ſublimable, by a ſtrong fire, into white flowers; calcining, by a continuance of a heat ſufficient to keep it melted, into a greyiſh powder, which on raiſing the fire runs into a yellow very fuſible glaſs; diſſolving with violence in the nitrous acid, and precipitating in form of a bright white powder on diluting the ſolution largely with pure water; very difficultly acted on by the marine acid, and ſcarcely at all by the vitriolic; giving out very little to the vegetable acids, but impregnating them with a nauſeous taſte. It is extracted from an ore found hitherto chiefly in Saxony; by eliquation, or fuſion in a ſmall heat without addition. The ore is generally

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(*a*) Mercatus, *metallotheca, armarium* viii. *cap.* iii. *p.* 179.

rally very arſenical: whether the biſmuth retains any of the arſenic, has not been ſufficiently examined.

This metal remarkably promotes the facility and tenuity of the fuſion of other metallic bodies: with lead and tin, it forms compounds which melt in ſo ſmall a heat as to have been propoſed by ſome for anatomical injections: the proportions, that have been found to compoſe the moſt fuſible mixtures, are, two parts of lead, three of tin, and five of the biſmuth. It likewiſe remarkably promotes the ſolution of lead in mercury, but has not been obſerved to produce a like effect on other metallic bodies.

Flor. biſmuth. Magiſterium biſmuthi.

The white flowers ſublimed from this metal, and the white magiſtery precipitated by water from its ſolution in aqua fortis, have been recommended externally againſt gleeting ſores, and internally as diaphoretics ſimilar to the milder antimonial medicines. In the firſt intention, they appear to be greatly inferiour to ſome of the ſaturnine preparations: in the latter, it is not certain what their real effects are, or even whether they are ſafe. At preſent, they are employed only as a fucus, nor is this uſe of them entirely innocent; for they gradually impair the natural complexion, and, as the college of Straſburg obſerves, occaſion a thickneſs and defedation of the ſkin.

BISTORTA.

BISTORTA Pharm. Lond. & Edinb. Biſtorta major radice minus intorta C. B. Polygonum Biſtorta Linn. Bistort or snakeweed: a plant with oval, pointed, wrinkled leaves, of a dark green colour above and bluiſh underneath, ſtanding on long pedicles, and continued a little way down the pedicle, forming a narrow margin on each ſide: among theſe ariſe round, ſlender jointed, unbranched ſtalks, furniſhed with ſmaller and narrower leaves which have no pedicles; bearing on the top ſpikes of imperfect five-leaved red flowers, which are followed by triangular ſeeds. It is perennial, grows wild in moiſt meadows in ſeveral parts of England, and flowers in May and June.

The root of this plant is bent and jointed, commonly about the thickneſs of the finger, ſurrounded with buſhy fibres, of a blackiſh brown colour on the outſide, and reddiſh within: it is diſtinguiſhed from the roots of the other biſtorts, by being leſs bent; that of the officinal ſpecies having only one or two bendings, and thoſe of the others three or more.

This root has a ſtrong aſtringent taſte, without any manifeſt ſmell or particular flavour. It is one of the ſtrongeſt of the vegetable ſtyptics, and frequently made uſe of as ſuch, in diſorders proceeding from a laxity and debility of the ſolids, for reſtraining alvine fluxes, after due evacuations, and other preternatural diſcharges both ſerous and ſanguineous. It has been ſometimes given in intermitting fevers; and ſometimes, alſo, in ſmall doſes, as a corroborant and antiſeptic, in acute malignant and colliquative fevers; in which intentions, Peruvian bark has now deſervedly ſuperſeded both this and all the other aſtringents.

The common doſe of biſtort root, in ſubſtance, is fifteen or twenty grains: in urgent caſes, it is extended to a dram. Its aſtringent matter is totally diſſolved both by water and rectified ſpirit * (a); the root, after the action of a ſufficient quantity of either menſtruum, remaining inſipid: the watery tinctures are of a dark browniſh colour, the ſpirituous of a browniſh red. On inſpiſſating the tinctures, the water and ſpirit ariſe unflavoured, leaving extracts of intenſe ſtypticity.

BITUMEN JUDAICUM.

ASPHALTUS. Jews pitch: a ſolid, light bituminous ſubſtance; of a duſky colour on the outſide, and a deep ſhining black within; of very little taſte, and ſcarcely any ſmell, unleſs heated, in which circumſtance it emits a ſtrong pitchy one; not ſoluble in vinous ſpirits or in oils; difficultly and only imperfectly melting in the fire; and leaving, on being burnt, a large quantity of aſhes. It is ſaid to be found plentifully in the earth in ſeveral parts of Egypt, and floating on the ſurface of the dead ſea; at firſt ſoft, and growing hard by age.

Abundance of virtues are attributed to this bitumen; reſolvent, diſcutient, ſudorific, emmenagogue, and others. It has long, however, been diſregarded in this country: the college of Edinburgh has now expunged it from the catalogue of officinals, and that of London retains it only as an ingredient in one of the compoſitions which complaiſance to antiquity has preſerved in the ſhops. Nor is it, among us, to be often met with; its place being generally ſupplied by different bituminous ſubſtances found in France, Germany, and Switzerland, ſometimes by the caput mortuum remaining after the diſtillation of amber, and ſometimes by common pitch. Its melting in the fire only partially or not at all, and the quantity of aſhes it leaves in burning, diſtinguiſh it from theſe ſubſtances, and ſhew, at the ſame time, that in its moſt genuine and perfect ſtate it is a very impure bitumen, mixed largely with earthy matter. Diſtilled in a retort, it yields, according to Neumann, a little inſipid phlegm, and about one eleventh its weight of oil, reſembling the native petrolea, but of a ſomewhat more diſagreeable empyreumatic ſmell.

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* (a) Spirit has little effect on it. *Cullen.*

BOLUS.

BOLE: a friable earthy ſubſtance, uniting with water into a ſmooth paſte, adhering to the tongue, and diſſolving as it were in the mouth: of the clayie kind, but more readily imbibing water than the clays ſtrictly ſo called; when moiſtened, leſs viſcous and coheſive; more eaſily diffuſible through water by agitation; and more freely ſubſiding from it.

1. Bolus armena. Armenian bole, or bole-armenic: of a pale but bright red colour, with a tinge of yellow; harder, and of a leſs gloſſy ſurface, than moſt of the other boles.

2. Bolus gallica *Pharm. Lond. & Edinb.* French bole: of a pale red colour, variegated with irregular ſpecks and veins of whitiſh and yellow.

Many other bolar earths have been recommended for medicinal uſes, and were formerly ranked among the officinals; as, red boles from Armenia, Lemnos, Strigonium, Portugal, Tuſcany, and Livonia; yellow boles from Armenia, Tockay, Sileſia, Bohemia, and Blois; white boles from Armenia, Lemnos, Nocera, Eretria, Samos, Chio, Malta, Tuſcany, and Goltberg. Several of theſe earths have been commonly made up into little cakes or flat maſſes, and ſtamped with certain impreſſions; from whence they received the name of *terræ ſigillatæ*, or ſealed earths. The Armenian and Lemnian have been generally ſuppoſed to be the beſt, but are rarely met with in the ſhops: the common French bole, and ſome bolar earths found in our own country, and even white clay artificially coloured with ochre or colcothar of vitriol, have commonly ſupplied the place both of thoſe and of the other coloured boles. The ſubſtitution of the French to the Armenian, in the ſeveral compoſitions wherein that earth is directed as an ingredient, is now allowed by the London college: and indeed all theſe earthy bodies, however differing from one another in the degree or ſpecies of their colour, or in their texture and compactneſs, appear, in regard to their medicinal qualities, to be very nearly, if not entirely, alike.

All the boles have for their baſis one and the ſame *argillaceous* earth; which is not diſſoluble, by the heat of boiling water, in acids, in alkalies, or in any other known menſtruum; which, in a ſtrong heat, grows hard, contrary to all the other bodies of an earthy or ſtony nature, which receive from fire a greater or leſs degree of friability; and at the ſame time loſes its property of imbibing water, and of being reduced thereby into a tenacious maſs. The boles and clays, both in their natural ſtate and when indurated by fire, become diſſoluble in part, by ſtrongly boiling them in the concentrated vitriolic acid, till the more phlegmatic parts of the liquor have exhaled, and the matter remains dry. The compound which the earth, by this proceſs, forms with the acid, is of the ſame nature with alum: it diſſolves in water, and may be cryſtallized into perfect alum, by adding a ſuitable quantity of any volatile or fixt alkaline ſalt to ſaturate the redundant acid, and after due evaporation ſetting the liquor to ſhoot.

The colours of the boles proceed from a ſlight admixture of a ferrugineous calx; which may be extracted by digeſtion in ſpirit of ſalt or aqua regis, but is ſcarcely acted upon by any acid of the vegetable or animal kingdom. Some of them contain a portion of calcareous earth, which is extracted by all acids except the vitriolic, and diſcovers itſelf by raiſing an effervescence on the affuſion of the acid. The ſpecimens I examined of the bole of Blois gave out a conſiderable quantity of this earth, thoſe of the common French bole exceeding little, and the Armenian none: poſſibly, however, different maſſes of one kind of bole may differ, in this reſpect, as much as different boles. All the boles ſeem to participate alſo of vitriolic acid; which is ſo intimately blended with the other matter, as not to be ſeparable, or diſcoverable, without violence of fire.

The ferrugineous calx and calcareous earth are likewiſe very intimately blended with the proper bolar matter; inſomuch, that when the compound is diffuſed through water, it ſettles equally and uniformly without any ſeparation of its parts. If the bole contains any ſand or ſmall ſtones, or has been artificially coloured, the ſand, ſtones, and colouring ingredients, ſeparate in the water, and being heavier than the bolar earth, ſubſide before it. On this principle, the boles may be purified from the gritty matter often intermixed among them, and the natural boles diſtinguiſhed from artificial compoſitions.

The medical virtues of the boles appear to depend on the ſimple bolar or argillaceous earth. As this earth is not diſſoluble by any fluid that can exiſt in the bodies of animals, it can act no otherwiſe than by imbibing, or giving a greater degree of conſiſtence to thin ſharp humours in the firſt paſſages, and in ſome meaſure defending the ſolids from their acrimony. In conſequence of this virtue, the boles may be of ſome ſervice in alvine fluxes, cardialgic complaints, and in ſome kinds of acute diſeaſes; though they are not poſſeſſed, as they have been commonly ſuppoſed to be, of any truly aſtringent, or abſorbent, and much leſs of any alexipharmac powers. The ſenſation of aſtringency which they generally occaſion, in ſome degree, in the mouth, ſeems to conſiſt only in their adhering to and drying the part, by imbibing the fluids that moiſten it. Their doſe is from fifteen or twenty grains to a dram.

BONUS HENRICUS.

CHENOPODIUM Pharm. Pariſ. Tota bona Dod. Lapathum unctuoſum folio triangulo C. B. Chenopodium Bonus Henricus Linn. ENGLISH MERCURY: a plant with triangular leaves, covered underneath with a whitiſh unctuous meal; and ſtriated hollow ſtalks, partly erect, and partly procumbent, bearing on the top ſpikes of ſmall imperfect flowers, each of which is followed by a ſmall black ſeed incloſed in the cup. It is perennial, grows by road ſides and in waſte grounds, and flowers in Auguſt.

The leaves of this plant, to the taſte mucilaginous and ſomewhat unpleaſantly ſubſaline, are accounted emollient; and in this intention have been made an ingredient in decoctions for glyſters. They are applied by the common people to fleſh wounds and ſores, under the notion of drawing and healing. In ſome places, the young ſhoots are eaten in the ſpring as aſparagus, and ſaid to looſen the belly, and promote urine.

BORAGO.

BORAGO hortenſis Raii ſynopſ. Bugloſſum latifolium borrago flore cæruleo C. B. Borago officinalis Linn. Borage: a very hairy rough plant, with wrinkled blackiſh green leaves approaching to an oval ſhape, and round hollow ſtalks, on which the leaves are ſet alternately: on the tops of the branches come forth blue, ſometimes reddiſh or whitiſh, monopetalous flowers, each of which is divided into five ſharp-pointed ſegments, and followed by four wrinkled blackiſh ſeeds lying naked in the enlarged cup. It is perennial, and grows wild on waſte grounds and on old walls.

The leaves of this plant are very juicy, of no ſmell, and of hardly any particular taſte: they ſeem nevertheleſs to contain ſubſtances of ſome medicinal activity, though in too ſmall proportion to be ſenſible till ſeparated from the herbaceous matter. Mr. Boulduc relates, that a decoction of borage leaves, evaporated to the conſiſtence of a ſyrup, and ſet by for a few days, yielded ſaline cryſtals, partly in form of fine needles, and partly cubical: that the needled cryſtals were found to be perfect nitre, and the cubical ſea ſalt: that by paſſing the decoction through quicklime before the inſpiſſation, both ſalts were obtained in greater purity and in larger quantity: that the ſubſtance of the leaves, remaining after the boiling, being dried and burnt, and the aſhes elixated with water, the lye, properly evaporated and ſet to ſhoot, yielded firſt a vitriolated tartar, and afterwards ſea ſalt, the liquor, after the cryſtallization, proving ſimply alkaline*(a)*. From this analyſis it may be preſumed, that the aperient and refrigerating virtues, aſcribed to borage leaves, are not wholly without foundation; though theſe virtues are undoubtedly very weak. Malouin remarks, that the juice of the leaves, which is not green, like that of moſt other herbs, but of a brown colour, added to bitter mixtures of the juices of creſſes and chervil, diſſipates their bitterneſs.

The flowers of the plant have been principally made uſe of, and are generally ranked among the cordials. Medicines may act as cordials, either by virtue of ſome warmth, pungency, or fragrance; or by a ſaline quality, abating immoderate heat: but borage flowers ſeem to have little power of operating in either of theſe intentions. When freſh, they have a very ſlight ſmell, of the agreeable kind, which in drying is loſt: to the taſte, both the flowers in ſubſtance, and an extract made from them by water, are only mucilaginous and ſweetiſh.

BORAX.

BORAX Pharm. Lond. & Edinb. BORAX: a cryſtalline ſalt; very difficultly ſoluble in cold water; ſwelling and bubbling up in the fire, and changing into a light white ſpongy friable matter, which, ſoon ſubſiding on a continuance of the fire, melts into a ſubſtance reſembling glaſs, but which is ſtill found to be diſſoluble in water, though more difficultly than the borax at firſt.

(a) *Mem. de l'acad. roy. de ſcienc. de Paris, pour l'ann.* 1734.

It is brought from the Eaſt Indies in a very impure ſtate; conſiſting partly of large hexaedral priſmatic flatted cryſtals, but chiefly of ſmaller and more irregular ones, partly whitiſh and partly green, joined together as it were into one lump by a fetid greaſy, or oily, yellow ſubſtance; intermingled with ſand, ſmall ſtones, and other impurities. Of its origin and preparation we have no certain account.

This impure borax was formerly refined at Venice, afterwards in Holland only, and now by ſome particular perſons in England alſo, into large irregular colourleſs maſſes, in appearance reſembling alum. The ſalt is commonly called tincal in its rough ſtate, and borax when thus purified or refined. The method of refining it is kept a ſecret. Certain additional matters are ſuſpected to be employed; the common refined borax being different in ſome reſpects, particularly in its power of vitrefying earthy bodies, from the cryſtals unrefined or ſimply purified by ſolution.

The purer cryſtals of tincal, or refined borax, diſſolve, by boiling, in a ſmall quantity of water, ſo as in cooling to concrete almoſt all into a ſolid maſs, only a very little liquid remaining on the top: to keep them diſſolved in the cold, more than fourteen times their weight of water is neceſſary. On boiling the impure tincal in water, the oil diſſolves along with the ſalt into a ſoapy liquid; from whence it may be preſumed that the oily matter is not of a mineral, but of a vegetable or animal origin. From this ſolution it is very difficult to ſeparate the oil, without additions which alter the quality of the ſalt: but if the rough tincal be previouſly heated in an iron ladle, or other convenient veſſel, till it ceaſes to bubble and flame, the oil is deſtroyed or made indiſſoluble, and boiling water extracts from the black maſs only the pure borax.

Pure borax has a ſweetiſh ſomewhat pungent taſte, leaving in the mouth an impreſſion like that of alkaline ſalts, but far milder. Like alkaline ſalts alſo, it changes the colour of blue flowers to green, precipitates earthy and metallic bodies diſſolved in acids, and renders vegetable and animal oils miſcible with water: it does not, however, ſenſibly efferveſce with acid any more than with alkaline liquors. It diſſolves in acids more eaſily than in water, and promotes likewiſe the ſolution of ſome vegetable acid ſalts of themſelves difficultly diſſoluble. A mixture of borax with twice its weight of tartar diſſolves in about one ſixth part of the quantity of water that would be neceſſary for their ſolution ſeparately: the liquor taſtes acid, like tartar by itſelf, and depoſites a conſiderable quantity of tartar in cooling. About equal parts of the two form a compound perfectly neutral, in taſte more like borax than tartar, which is kept diſſolved by five times its weight of water a little above freezing. On inſpiſſation, a viſcous tenacious maſs is left, which does not cryſtallize, and which deliquiates in the air. Borax affords alſo glutinous compounds with all the other acids except the vitriolic: ſaturated ſolutions even of the borax by itſelf are conſiderably ſo.

This ſalt appears to conſiſt of the mineral alkali or baſis of ſea ſalt, united with a ſmaller proportion of a peculiar ſaline ſubacid concrete. By all the mineral acids, and, as is ſaid, by the acetous, its conſtituent parts are ſeparable from one another; the acid uniting with the alkaline baſis, and disjoining therefrom the ſubacid ingredient of the borax.

This analyſis is moſt commodiouſly effected by the vitriolic acid. A mixture of nine parts of borax, three of oil of vitriol, and one of water, being urged, in a wide-necked retort, with a fire, at firſt gentle and afterwards pretty haſtily increaſed till the veſſel becomes red hot; the ſubacid ſalt of the borax, called ſedative ſalt, riſes into the neck, and concretes into thin ſhining white plates. But as this ſalt proves volatile only while moiſt, a part of it remains behind, and may be ſublimed, like the firſt, by pouring back on the reſiduum the liquor that diſtills, and renewing the operation. The ſame ſalt may be obtained more commodiouſly, though ſcarcely in ſo pure a ſtate, by adding the oil of vitriol to the borax diſſolved in water, and, after due evaporation, ſetting the mixture to ſhoot: the ſedative ſalt cryſtallizes on the ſurface, much ſooner than the other ſaline matter, into thin plates; which, uniting together, and growing heavier, fall to the bottom. The ſalt, which in either caſe remains after the ſeparation of the ſedative ſalt, is a combination of the vitriolic acid with the alkaline baſis of the borax, and has not been obſerved to differ from the common combination of that acid with the alkaline baſis of ſea ſalt, that is, from the ſal mirabile or cathartic ſalt of Glauber. The ſedative ſalt,

Sal. ſedativ. *Ph. Pariſ.*

ſalt, joined to the marine alkali, recompoſes borax again.

The peculiar and characteriſtic ingredient of the borax, though called ſubacid from its property of neutralizing alkalies, ſcarcely diſcovers any other mark of acidity. Its taſte is bitteriſh, accompanied with a ſlight impreſſion of coolneſs. It makes no change in the colour of blue flowers, and no efferveſcence with alkalies or with acids. It melts in a moderately ſtrong fire, and aſſumes a perfect vitreous appearance; but this apparent glaſs, as well as the ſalt itſelf, may be totally ſublimed, if repeatedly moiſtened, by a leſs degree of heat; and totally, though difficultly, diſſolved both by water and by rectified ſpirit.

It is obſervable, that the ſpirituous ſolution of the ſedative ſalt, ſet on fire, burns with a green flame; and that borax itſelf, boiled in ſpirit, is partially diſſolved, and tinges its flame of the ſame colour. Perhaps it is principally, or ſolely, this ſalt, that the ſpirit extracts from the borax; for ſpirit burnt on the alkali of borax, exhibits no greenneſs.

Borax is accounted an efficacious deobſtruent, diuretic, emmenagogue, and promoter of delivery. Its virtues have not as yet been thoroughly aſcertained by experience, and are by many queſtioned; the borax having generally been given in conjunction with other ſubſtances, to which the effects, experienced from the compound, may be, in part at leaſt, attributed. That the borax itſelf, however, has really ſome virtues of this kind, may be preſumed from the effects it has been obſerved to produce when uſed in large quantity: Trioen relates, that an ounce and a half of borax having been taken by a young a young woman in miſtake for cream of tartar, an uterine hemorrhage ſucceeded, ſo profuſe, that life was deſpaired of: the flux was got under by medicines; but the ill ſtate of health, and almoſt univerſal œdema, which followed it, were laſting (a). Solution of borax has been found to be a powerful diſſolvent of aphthous cruſts in the mouth and fauces of children (b).

The peculiar ſaline concrete, extricated from borax by acids, is ſuppoſed to be antiſpaſmodic and anodyne, whence its name *ſedative* ſalt. It is ſaid to calm the heat of the blood in burning fevers, to prevent or remove delirious ſymptoms, and allay, for a time, melancholical, hypochondriacal, and hyſterical complaints. It continues in ſome eſteem in France, where it was firſt diſcovered by Mr. Homberg, but has never come into practice among us. Its doſe is from three grains to a ſcruple.

BOTRYS.

BOTRYS: a low ſomewhat hairy plant, full of branches, bearing numerous imperfect flowers: the flower ſtands in a five-leaved cup, which forms a covering to a ſmall roundiſh ſeed.

1. Botrys *ſive ambroſia Pharm. Pariſ. Botrys ambroſioides vulgaris C. B. Chenopodium Botrys Linn.* Jeruſalem oak: with oblong pointed, deeply ſinuated leaves like thoſe of the oak tree, of a yellowiſh green colour on the

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(a) *Obſervationum medico-chirurg. faſciculus, p.* 18.

(b) Biſſet, *Eſſay on the medical conſtitutiou of Great Britain, p.* 203.

upper ſide, purpliſh underneath, marked with large red veins, and placed alternately: the flowers ſtand in cluſters, on divided pedicles, in the boſoms of the leaves.

2. Botrys mexicana *Pharm. Pariſ. Botrys ambroſioides mexicana C. B. Chenopodium ambroſioides Linn.* Mexico tea: with pale green triangular leaves, and undivided flower-ſtalks: greatly reſembling the wild orach.

Both theſe plants are natives of the ſouthern parts of Europe, and ſown annually with us in gardens. The leaves and flowery heads have a pretty ſtrong and not unpleaſant ſmell, and a moderately aromatic ſomewhat bitteriſh taſte: on much handling them, an unctuous reſinous juice adheres, in conſiderable quantity, to the fingers. The proper menſtruum of their active matter is rectified ſpirit: they nevertheleſs give out their more valuable parts to boiling water alſo, which they impregnate ſtrongly with their ſmell, and conſiderably with their taſte. The infuſions, which are not unpalatable, drank as tea, are ſaid to be of ſervice in humoural aſthmas and coughs, and other diſorders of the breaſt: they are ſuppoſed alſo to be antiſpaſmodic and antihyſteric.

BRASSICA.

CABBAGE. *Braſſica capitata alba C. B.* White cabbage and coleworts. *Braſſica capitata rubra C. B.* Red cabbage. *Braſſica rubra C. B.* Red coleworts. *Braſſica ſabauda: braſſica alba capite oblongo non penitus clauſo, C. B.* Savoy. *Braſſica cauliflora C. B.* Cauliflower. Theſe and the other ſorts of cabbages, raiſed in our culinary gardens, are ſuppoſed to be only varieties of the ſmaller kind, which, in ſome parts of England, about the ſea coaſts, is found wild: accordingly they are joined by Linnæus into one ſpecies, under the name of *braſſica (oleracea) radice cauleſcente tereti carnoſa.* They are all biennial.

The ſeveral ſorts of cabbages are commonly accounted hard of digeſtion, and of little nouriſhment, but perhaps not very juſtly. For as they have manifeſtly a ſtrong tendency to putrefaction, running into this ſtate ſooner than almoſt any other vegetable, and emitting alſo during the putrefaction a more offenſive ſmell, nearly approaching to the fetor of the animal kingdom; it does not ſeem irrational to preſume, that of all the oleraceous herbs, cabbages may be the moſt eaſily reſoluble in the ſtomach, the moſt nutritious, and the leaſt remote from the nature of animal food. Thus much is certain, that they are, in general, not unwholeſome; that they do not induce, or promote, a putrid diſpoſition in the human body, but on the contrary prove a ſalubrious aliment in the true putrid ſcurvy*(a); that when taken freely, they tend to looſen the belly and produce flatulencies; and that their laxative matter is extracted by long boiling in water.

Of all theſe herbs, the white cabbage is the moſt putreſcible; and the red ſweeteſt, and

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*(a) Cabbages cut in ſlices and packed up in a caſk with ſalt and other additions, ferment, and acquire an acid taſte, in which ſtate they are much eaten in Germany under the name of *ſaur kraut*. This has lately been introduced as an article of diet in the Britiſh navy, and has been found to keep well in long voyages, and to prove a very uſeful antiſcorbutic.

moſt emollient or laxative. If the ſtalks of red cabbage, towards the end of autumn, be cut longitudinally and ſet by for ſome time in a place not warm, a laxative juice, reſembling honey or manna, exudes from the inciſions *(a)*. A decoction of this laſt kind has been greatly recommended in hoarſeneſſes and ſome diſorders of the breaſt, for ſoftening acrimonious humours, and promoting expectoration. Boerhaave tells us of very dangerous diſorders of the cheſt cured by the uſe of a decoction of red cabbage with a little ſalt and orange juice *(b)*.

BRASSICA MARINA.

SOLDANELLA & convolvulus maritimus Ph. Pariſ. Soldanella maritima minor C. B. Convolvulus Soldanella Linn. SOLDANELLA: a ſpecies of convolvulus, with roundiſh or kidney-ſhaped leaves ſet on long pedicles; and large reddiſh-purple flowers ſtanding ſolitary in the boſoms of the leaves. It grows wild about the ſea coaſts in the north of England, and flowers in June.

THE leaves of ſoldanella are ſaid to be a ſtrong and a rough cathartic, generally occaſioning gripes and diſordering the ſtomach. Their virtue reſides in an acrid, bitteriſh, milky juice, which exudes upon wounding them. In drying, they loſe much of their taſte, but ſeem to retain their purgative virtue: a decoction of from half a dram to two or three drams of the dried leaves is directed for a doſe. In ſome places, it is cuſtomary among the common people

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(a) Hoffman, *De remediis domeſticis*, § 14.

(b) Boerhaave, *Hiſt. plant. hort. Lugd. Bat. p.* 423.

to prepare a ſtrongly purgative liquor by boiling a ſmall handful of the freſh leaves in broth. But as their degree of ſtrength is very little known, and as we have many other medicines, for the ſame intention, whoſe qualities have been aſcertained by general experience, the ſoldanella, though retained in moſt catalogues of the materia medica, ſtands excluded from practice.

BRYONIA.

BRYONIA ALBA Pharm. Edinb. & Linn. Vitis alba ſive bryonia J. B. Bryonia aſpera ſive alba baccis rubris C. B. BRYONY or WILD VINE: a perennial rough plant, growing wild in hedges, and climbing on the buſhes with curled tendrils. The leaves are in ſhape ſomewhat like thoſe of the vine, irregularly pentagonal, with a conſiderable indentation between every two angles, and the extreme ſegment longeſt: in their boſoms come forth cluſters of greeniſh-white bell-ſhaped monopetalous flowers, divided into five roundiſh ſections, adhering firmly to the cup; ſucceeded by red berries, containing an extremely viſcid pulp with ſmall ſeeds. The root is very large, ſometimes as thick as a man's thigh, of a yellowiſh or browniſh colour on the outſide, and white and fungous within.

FRESH bryony root, taken up in the beginning of ſpring, abounds with a thin milky juice: if the upper part of the root be bared of earth, and the top cut over tranſverſely, the juice continues to riſe gradually to the ſurface, in notable quantity, for two or three days ſucceſſively, and may be collected by forming a cavity in the middle to receive it. Both the root in ſubſtance, and the juice, have a diſagreeable ſmell, and a nauſeous, bitter biting taſte: applied for ſome time to the ſkin, they inflame or even veſicate the part. On drying the one, or inſpiſſating the other, they loſe moſt of their acrimony and nearly the whole of their ill ſcent. In ſummer, the root proves much leſs juicy, and weaker both in ſmell and taſte.

This root, taken in powder from a ſcruple to a dram, proves a ſtrong cathartic. It was formerly given, both as a purge, in maniacal and hydropic caſes; and, in ſmaller doſes, as a reſolvent and deobſtruent, in uterine and aſthmatic diſorders, in which it is reported to have been of great efficacy. At preſent it is, in this country, very rarely made uſe of in either intention; on account, not entirely of the violence of its operation, for purgatives as violent as it are ſtill retained in practice; but partly of its degree of activity, in different ſtates and forms, being very variable, and leſs aſcertained than that of other cathartics in more general uſe. It is ſaid, that when freſh it operates, violently, upwards as well as downwards; and that when dry, it acts with leſs violence, and chiefly by ſtool *(a)*; that the juice, which iſſues from it ſpontaneouſly, purges mildly in doſes of a ſpoonful*(b)*; that the freſh root, bruiſed and freed from its juice by preſſure, and afterwards dried, is ſtill purgative*(c)*; and that the ex-

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(a) Hermann, *Cynoſura m. m. edit. Boecler.* i. 141, *&c.*—Boulduc's opinion, of the dry root being ſtrongeſt *(mem. de l'acad. roy. des ſcienc. de Paris, pour l'ann.* 1712) ſeems to have been deduced from a principle, which cannot be admitted, that the root ſuffers no other change in drying than the diſſipation of its watery humidity.

(b) Stoffelius, *apud Joan. Bauhin. hiſt. plant. tom.* ii. *p.* 143.

(c) Le Mort, *Morley collect. chym. Leydenſ. p.* 120.

preſſed juice exſiccated, and the farinaceous fecula which ſubſides from it on ſtanding, are of little activity*(a)*: that an extract made from the freſh root, by boiling it in wine, and preſſing out and inſpiſſating the decoction, operates with ſufficient mildneſs, in doſes of from half a dram to a dram*(b)*, both by ſtool and urine; and that infuſions in water are chiefly diuretic. Burggrave relates, as from his own knowledge, a pretty remarkable account of the effects of the watery infuſion and juice in this laſt intention. From a freſh root, as thick as can be procured and about a ſpan long, he directs about an inch of the top to be cut off, and a large conical piece to be cut out to two thirds the depth of the root: into this cavity put two ounces or more of ſugar-candy in powder, above which inſert the cone properly detruncated, and ſet the root upright in a warm place for twenty-four hours: the ſugar being now diſſolved by the native juice of the bryony, the excavated part of the root is to be cut off, and one, two, or three ſlices, from the lower ſolid part, infuſed in water. "Give, ſays the author, to an hy-
" dropic perſon, one ſpoonful of the ſaccharine
" ſolution in the morning, and repeat it every
" two hours till the patient begins to make
" water profuſely, for it will not purge: when
" great thirſt is complained of, give a draught
" of the infuſion, which will likewiſe not purge,
" but work ſtill more by urine. Then carefully
" provide againſt any ill effects enſuing from the
" inanition of the abdomen and collapſion of the
" integuments*(c)*."

(a) Boerhaave, *Hiſt. plant. Lugd. Bat. p.* 497. Geoffroy, *m. m.* iii. 223.

(b) Geoffroy, *m. m.* iii. 223.

(c) Burggrave, *Lexicon medicum, p.* 1710.

Externally, the freſh root has been employed in cataplaſms, as a reſolvent and diſcutient; againſt hard and œdematous tumours, ſtagnations and coagulations of blood from external injuries, and iſchiadic and other rheumatic pains.

BUGLOSSUM.

BUGLOSSUM anguſtifolium majus C. B. Anchuſa officinalis Linn. Bugloss: a rough plant, greatly reſembling borage, and differing from it chiefly in the leaves being narrow, leſs prickly, not wrinkled, and in colour bluiſh green; and in the ſegments of the flowers being obtuſe. It grows wild, on waſte grounds, in the ſouthern parts of Europe, is cultivated with us in gardens, flowers from June to the end of ſummer, and in winter dies to the ground, the roots abiding.

This plant appears to be nearly ſimilar to borage, in its medicinal qualities as well as in its external form. The principal difference ſeems to conſiſt, in the leaves being ſomewhat leſs juicy, and the roots more mucilaginous. The roots, leaves, and flowers, are ranked among the articles of the materia medica, but are very rarely made uſe of.

BUGULA.

PRUNELLA germanis Trag. Conſolida media pratenſis cærulea C. B. Ajuga reptans Linn. Bugle or middle consound: a low plant, with two kinds of ſtalks; round creeping ones, which ſtrike root at the joints; and upright ſquare ones, hairy on two of the oppoſite ſides, alternately, from joint to joint, bearing looſe ſpikes of blue labiated flowers, of which the upper lip is wanting: the leaves are ſomewhat oval, ſoft, ſlightly cut about the edges, and ſet in pairs at the joints. It is perennial, found wild in woods and moiſt meadows, and flowers in May.

The leaves of bugle diſcover, on firſt chewing, a ſweetiſh taſte, which is followed by a conſiderable bitteriſhneſs and roughiſhneſs. Infuſions of them, or the expreſſed juice, are recommended as vulneraries, or as mild aſtringents and corroborants, in fluxes and other diſorders. Some have obſerved, that they do not bind the belly, like the other *conſolidæ*, but that, on the contrary, decoctions of them are gently laxative, and of great uſe in phthiſes and internal ulcerations (*a*). The roots of the plant are conſiderably aſtringent, as appears both from their taſte, and from their ſtriking a black colour with ſolution of chalybeate vitriol.

BURSA PASTORIS.

BURSA PASTORIS Pharm. Pariſ. Burſa paſtoris major folio ſinuato C. B. Thlaſpi Burſa Paſtoris Linn. SHEPHERDS PURSE: a plant with ſmall tetrapetalous whitiſh flowers, along the upper part of the branches, followed each by a triangular ſeed veſſel reſembling a purſe, whence its name: the lower leaves are for the moſt part deeply jagged like thoſe of dandelion, and widen from the bottom forwards; thoſe on the ſtalks are entire, and moſt of them broadeſt at the bottom, with a little ear on each ſide at the

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(*a*) La Poterie (*Poterius*) *Pharm. ſpagyr. lib.* i. *ſect.* i. *cap.* 2.

juncture with the ſtalk. It is annual, common in waſte grounds, and flowers from April to the end of ſummer.

THIS herb has, when freſh, an unpleaſant ſmell, which in drying is diſſipated: its taſte is almoſt merely herbaceous. An extract made from the dry leaves by water is ſomewhat ungratefully mucilaginous and ſubſaline: an extract made by rectified ſpirit has ſomewhat more of an unpleaſant, though weak, taſte. No pungency or aſtringency could be perceived either in the leaves themſelves or in the extracts; nor did a decoction of them ſtrike any degree of blackneſs with ſolution of chalybeate vitriol. There does not appear, therefore, to be any foundation for the ſtrong ſtyptic virtues, for which this herb has been generally recommended by writers on the materia medica; or for the acrid inflammatory power, which ſome (miſled probably by its botanic affinity with muſtard and ſome other acrid vegetables) have aſcribed to it.

BUXUS.

BUXUS arboreſcens C. B. Buxus ſempervirens Linn. BOX TREE: a ſmall evergreen tree, or ſhrub, with numerous branches, clothed with firm, ſhining, ſomewhat oval leaves: the wood is of a yellow colour, and more compact and ponderous than any of the other European woods: the flowers are imperfect; the fruit, which grows on a diſtinct part of the tree, is a green berry, divided into three cells, containing ſix ſmall ſeeds. It is found wild in ſome parts of England.

The leaves of this tree have a faint unpleaſant ſmell, which is in great part diſſipated in drying, and pretty ſtrongly impregnates water in diſtillation: their taſte is ſomewhat of the bitter kind, very ſtrong, and very nauſeous. It is ſaid, that their effluvia are narcotic; and that the leaves in ſubſtance, and infuſions or decoctions of them, are aperient and purgative.

The wood gives a bright yellow tincture to ſpirituous menſtrua, and a paler yellow to water. Chewed, in ſubſtance, it ſcarcely diſcovers any taſte: an extract made from it by rectified ſpirit, which amounts to little more than one fifteenth part of the weight of the wood, is weakly bitteriſh: by water was obtained nearly one thirtieth its weight, of a ſtronger taſted, ungratefully ſaline extract. From theſe experiments it may be preſumed, that boxwood contains little active matter; and that this matter is not of the pungent reſinous, but of the ſaline kind; and conſequently that it differs greatly from guaiacum wood, to which it is by many writers ſuppoſed to be ſimilar.

CACAO.

CACAO or CHOCOLATE NUT: an oblong roundiſh nut, nearly of the ſhape of an almond, but larger: the ſhell is dark coloured, brittle, and thin: the kernel is both externally and internally browniſh, divided into ſeveral unequal portions, which are joined firmly together. It is the produce of a ſmall American tree, (*Cacao Sloan. Jam. Amygdalis ſimilis guatimalenſis. B. C. Theobroma Cacao Linn.*) bearing a large red fruit ſhaped like a cucumber, which contains thirty or more of the nuts. There are ſeveral ſorts of theſe nuts in the ſhops, diſtinguiſhed by their ſize, and the places whence they are brought: the larger kind, from the province of Nicaragua in Mexico, is moſt eſteemed.

Cacao nuts have a light agreeable ſmell, and an unctuous, bitteriſh, roughiſh, not ungrateful taſte: thoſe of Nicaragua and Caracco are the moſt agreeable; thoſe of the French Antilles, and our own American iſlands, the moſt unctuous. All the ſorts, thoroughly comminuted and committed to the preſs, yield a conſiderable quantity of a fluid oil, of the ſame general qualities with thoſe obtained from other ſeeds and kernels; boiled in water, they give out a large proportion, half their weight or more, of a ſebaceous matter, which gradually concretes upon the ſurface as the liquor cools. For obtaining this product to the beſt advantage, the faculty of Paris directs the nuts to be ſlightly roaſted in an iron pan, cleared from the rind and germ, levigated on a hot ſtone, then diluted with a proper quantity of hot water, and kept in a water-bath till the oil riſes to the top; which, when concreted, looks brown, and by repeated liquefactions in hot water becomes white. This vegetable ſevum is not liable to grow rancid in long keeping; and hence is recommended as a baſis for odoriferous unguents, and the compoſitions called apoplectic balſams.

Oleum ſeu butyrum e nucleis cacao *Ph. Pariſ.*

The principal uſe of theſe nuts is for the preparation of the dietetic liquor, chocolate; a mild unctuous fluid, ſuppoſed to be serviceable in conſumptive diſorders, emaciations, and an acrimonious ſtate of the juices in the firſt paſſages.

CALA-

CALAMINARIS.

LAPIS CALAMINARIS Ph. Lond. & Edinb. Cadmia foſſilis; Cadmia lapidoſa. CALAMINE or CALAMY: a mineral ſubſtance, of a greyiſh, browniſh, yellowiſh, or pale reddiſh colour, and ſometimes of all theſe colours variouſly mixed; conſiderably heavy; and moderately hard, but never ſufficiently ſo to ſtrike fire with ſteel; when mixed with powdered charcoal, changing copper, by fuſion, into a yellow metal, called braſs. It is found plentifully in England, Germany, and other countries; either in diſtinct mines, or intermingled with the ores of lead or other metals.

The matter, which copper imbibes from this mineral in its converſion into braſs, ſeparates again from the braſs on keeping it melted in an open veſſel, and exhales in fumes; which condenſe, upon ſuch adjacent bodies, as are leſs hot, into white flowers, the ſame with thoſe into which zinc is converted by fire. A mixture of calamine and powdered charcoal yields by itſelf, in open veſſels, or if the air is admitted, the ſame flowers: in cloſe veſſels, the zinc is revived, and either runs off, or ſublimes, in its proper metallic form, into that part of the veſſel which is moſt remote from the action of the fire. The quantity of zinc is variable, as of other metals in their ores: Marggraf informs us, in the Berlin memoirs, that ſome of the foreign calamines yielded two ſixteenths of their weight, an Engliſh calamine three ſixteenths, and another Engliſh ſpecimen from Holywell in Flintſhire, ſeven ſixteenths: from ſeveral parcels of the common calamine of the ſhops, I have gained nine ſixteenths. The moſt exact way of determining the quantity of zinc appears to be, by mixture with a pretty large proportion of copper; by which the zinc, reſolved into fume, is imbibed and detained.

This ore of zinc, employed principally for the making of braſs, is for that purpoſe roaſted or calcined; partly with a view to diſſipate ſome ſulphureous matter, which the crude mineral is ſuppoſed to contain; but chiefly to render it friable, and more eaſily reducible into fine powder. It is with the ore thus calcined, that the ſhops are generally ſupplied. The roaſted calamine is levigated into an impalpable powder.

Lap. calamin. præparatus *Ph. Lond.*

In this ſtate it proves, for external purpoſes, an excellent reſtringent, deſiccative, and epulotic; of great uſe in collyria, againſt defluxions of thin acrid humours upon the eyes; and in unguents and cerates, for cutaneous ulcerations and excoriations. The officinal epulotic cerate, commonly called Turner's, is made by melting ſix ounces of yellow wax in a pint of oil olive, over a gentle fire, ſprinkling in ſix ounces of levigated calamine as ſoon as the mixture begins to grow ſtiff, and keeping the whole ſtirring till grown quite cold. The college of Edinburgh uſes only one part of the calamine to five parts of a cerate compoſed of oil, wax, and ſpermaceti.

Cerat. lapidis calaminaris *Ph. Lond.*

Cerat. e lapide calaminari *Ph. Ed.*

CALAMINTHA.

CALAMINT: a plant with ſquare ſtalks: the leaves ſet in pairs; the flowers on branched pedicles, whereof two iſſue from one joint in the boſoms of the leaves: the upper lip of the flower is divided into two ſegments, the lower lip into three. It is perennial, and flowers in July and Auguſt.

1. Calamintha *pulegii odore ſeu nepeta C. B. Meliſſa nepeta Linn.* Calamint, field calamint: with reclining ſtalks; ſmall, irregularly oval leaves, very ſlightly indented, without pedicles; and the flower-ſtalks longer than the leaves. It grows wild in dry grounds, and by the ſides of fields.

This herb has a ſtrong aromatic ſmell, approaching to that of pennyroyal; and a moderately pungent taſte, ſomewhat like that of ſpearmint, but warmer. In virtue, it appears to be nearly ſimilar to a mixture of thoſe herbs: infuſions of the leaves are drank as tea, in weakneſſes of the ſtomach, flatulent colics, and uterine obſtructions.

Water extracts by infuſion nearly all the virtues of the calamint; and carries off, in evaporation, the whole of its ſpecific flavour. In diſtillation with water, there ſeparates from the aqueous fluid a conſiderable quantity of eſſential oil, of a very pungent taſte, and ſmelling ſtrongly of the herb. The remaining decoction, thus diveſted of the aromatic part of the plant, is unpleaſantly roughiſh, bitteriſh, and mucilaginous.

Rectified ſpirit extracts the virtues of the calamint more perfectly than water, and gains from it a deep green tincture. On gently diſtilling the filtered liquor, a part of the flavour of the herb riſes with the ſpirit, and a part remains behind in the inſpiſſated extract. Spirit manifeſtly brings over more from this plant than from ſpearmint, and leſs than from pennyroyal; its active matter being more volatile than that of the one, and leſs ſo than that of the other.

2. CALAMINTHA *vulgaris vel officinarum germaniæ C. B. Meliſſa Calamintha Linn.* Common calamint, ſo called: with upright ſtalks; larger, ſhort, ſerrated, pointed leaves, ſet on pedicles; and the flower-ſtalks of the length of the leaves. It is found wild about the ſides of highways, but is leſs common, in this country, than the other.

The leaves of this ſpecies are in taſte weaker than thoſe of the preceding. Their ſmell is ſtrong, not like that of pennyroyal, but rather approaching to that of the wild mints, though more agreeable. The eſſential oils of the two plants differ in flavour as the herbs themſelves: in the ſpirituous extracts the difference is leſs conſiderable. They are ſuppoſed to agree in virtue, and have been uſed indiſcriminately; the ſhops being generally ſupplied with the ſpecies which is moſt eaſily procurable.

3. CALAMINTHA MAGNO FLORE *Pharm. Pariſ. & C. B. Calamintha montana flore magno ex calyce longo J. B. Meliſſa grandiflora Linn.* Mountain calamint: with larger leaves and flowers than the two preceding, but ſmaller ſtalks; the leaves ſet on pedicles, pointed, acutely and deeply ſerrated like thoſe of nettles; the flower-ſtalks ſhorter than the leaves, and of the length of the flowers themſelves. It is a native of the ſouthern parts of Europe, and raiſed with us in gardens.

This ſpecies has a moderately pungent taſte, and a more agreeable aromatic ſmell than either of the other calamints. It appears to be the moſt eligible of the three as a ſtomachic.

CALAMUS.

CALAMUS AROMATICUS Pharm. Lond. Acorus, Calamus aromaticus Pharm. Edinb. & C. B. Acorus Calamus Linn. CALAMUS OR SWEET-SCENTED FLAG: a plant with long, narrow, pointed leaves, like thoſe of the narrow iris, of a bright green colour, divided by the longitudinal rib into two unequal portions, one of which is ſmooth, the other tranſverſely wrinkled. The flowers are imperfect, and ſtand thick together, forming an elegant ſpike like the catkin of the hazel, which riſes in the boſom of one of the leaves about the middle of its height. The root, which ſpreads obliquely under the ſurface of the earth, is long, crooked, full of joints, about an inch thick, ſomewhat flatted; externally of a greeniſh white colour, which changes, in drying, into a browniſh yellow; internally white, and of a looſe fungous texture. This plant grows plentifully, in rivulets and marſhy places, about Norwich and in ſome other parts of this kingdom, and, as is ſaid, in the canals of Holland: the flowers appear early in the ſummer, the leaves die in the winter, the roots are perennial. The ſhops have been uſually ſupplied from the Levant with dried roots, not ſuperiour, and ſcarcely equal, to thoſe of our own growth.

THE roots of calamus have a moderately ſtrong aromatic ſmell, and a warm, pungent, bitteriſh taſte. Their flavour, when freſh, is unpleaſant, approaching in ſome degree to that of leeks or garlic: by drying, it is greatly improved, but does not become truly grateful. Some report them to be ſuperiour in aromatic flavour to any other vegetables produced in theſe northern climates; but the ſpecimens I examined fell ſhort, in this reſpect, of many of our common plants.

Infuſions of calamus in water ſmell ſtrongly of the root, and have a moderately warm and very bitter taſte: ſpirit, applied after water, receives no ſmell, and ſcarcely any taſte. Tinctures of the root in rectified ſpirit are warmer and more pungent than the watery infuſion, but much leſs bitter, and of very little ſmell: water, applied after ſpirit, gains a conſiderable bitterneſs, but no ſmell. It appears, therefore, that water is the moſt perfect menſtruum of the bitter matter, as rectified ſpirit is of the aromatic, and that the ſmell of the calamus is covered or ſuppreſſed by ſpirit. The tinctures in both menſtrua are of a yellow or brown colour, according as they are leſs or more ſaturated.

In diſtillation with water, there ariſes a ſmall quantity of eſſential oil, amounting only to about two ounces from ſixty-ſix pounds of the root *(a)*: both the oil and diſtilled water have a ſtrong ſmell, ſomewhat leſs grateful than that of the root in ſubſtance: the remaining decoction, thus deprived of the aromatic matter, is nauſeouſly bitter. On diſtilling the ſpirituous tincture, the diſtilled ſpirit has ſcarcely any ſmell or taſte of the calamus: the extract, nevertheleſs, has very little ſmell, and much leſs taſte than might have been expected in the extract of ſo warm a root.

Calamus aromaticus was formerly held in conſiderable eſteem as a warm ſtomachic; and was commonly made an ingredient in bitter

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(a) Hoffman, *Obſervat. phyſico-chym. lib.* i. *obſ.* 1.

tinctures and infuſions: among us, it has given place, in this intention, to bitters of a more grateful kind. The root, candied, is ſaid to be uſed at Conſtantinople as a preſervative againſt contagion.

CALENDULA.

CALTHA vulgaris C. B. Calendula officinalis Linn. SINGLE MARIGOLD: a plant, with oblong undivided leaves, joined cloſe to the ſtalk, widening from thence to the extremity, juicy, and ſomewhat clammy to the touch; and moderately large, bright yellow or gold coloured flowers, compoſed of a number of indented petals ſtanding round a middle diſk, on which, after the flower has fallen, ſeveral rough crooked ſeeds lie naked. It is annual, common in gardens, propagates itſelf by ſeeds, and flowers from May to the end of autumn.

MARIGOLD flowers have been recommended as aperients in uterine obſtructions and icteric diſorders; as ſudorifics, alexipharmacs, and for promoting eruption in malignant and exanthematous fevers. They appear, from their ſenſible qualities, to be of little activity: when freſh, they have a faint unpleaſant ſmell, which is loſt in drying: their taſte is chiefly mucilaginous, with a ſlight bitteriſhneſs. They give a pale yellow tincture to water, and a deeper yellow to ſpirit: the watery infuſion has the moſt ſmell, and the ſpirituous the moſt taſte of the flowers. The extract obtained by inſpiſſating the ſpirituous tincture, is bitteriſh and ſlightly roughiſh: the watery extract is a tenacious mucilage, of leſs taſte than the other.

The leaves of the plant appear to be of greater virtue than the flowers. Chewed, they impreſs at firſt a viſcid ſweetneſs, which is followed by a penetrating pungency, very durable in the mouth, not of the hot or aromatic; but rather of the ſubſaline kind. Their expreſſed juice, which contains great part of the pungent matter of the herb, has been given, in doſes of two or three ounces or more, as an aperient; and is ſaid to looſen the belly, and promote the natural ſecretions in general.

CALX VIVA.

CALX Pharm. Lond. Calx viva Pharm. Edinb. QUICKLIME: an acrimonious, friable ſubſtance; diſſolving, very readily, in the nitrous, marine, and vegetable acids; uniting with the vitriolic acid into an indiſſoluble and nearly inſipid concrete; producing heat on the affuſion of water, partly diſſolving in the water, and impregnating it with a ſtrong taſte.

Quicklime is prepared, about London, chiefly from chalk; in other parts of the kingdom, from different ſorts of ſtones called, from their uſe, limeſtones; by calcining them, in kilns made for this purpoſe, with a ſtrong fire. All the native mineral earths and ſtones, that diſſolve in acids, and all the ſea ſhells that have been tried, are reduced by fire into quicklime; and ſuffer, in the calcination, a great diminution of their weight. If the lime be expoſed long to the atmoſphere, it falls by degrees into powder, increaſes in weight, loſes of its acrimony, and at laſt becomes ſimilar in quality to what the earth was before calcination: it retains its acrimony much longer in a moiſt than a dry ſtate.

The earths and ſtones, from which quicklime is produced, contain a large quantity of air, which in calcination is expelled: hence ſtrong quicklime raiſes no effervefcence, or emits no air-bubbles (which the crude earths do in great abundance) during its diſſolution in acids. A theory, which now begins to prevail, conſiders the proper calcareous matter as a ſubſtance, which is in its pure ſtate quicklime; which, by the ſimple coalition of air*(a) with it, loſes its acrimony, ſolubility in water, and other diſtinguiſhing characters; and which, on the bare ſeparation of this incorporated air, proves quicklime again(b). Thus much appears demonſtrated, that either the qualities of the calcareous matter are affected by the air itſelf imbibed or expelled, or that both (in all the experiments hitherto known) are equally affected by ſome other cauſe: in either caſe, the diſcovery is valuable in regard to practical utility; the calcareous earths and ſtones becoming quicklime by all thoſe means by which air is expelled from them, whether calcination by fire, or ſolution in acids and precipitation with ſubſtances void of air; and quicklime loſing its qualities by all thoſe means by which air is introduced, whether direct expoſure to the atmoſphere, or commixture with certain other bodies from which it inſtantaneouſly abſorbs the aereal matter.

Quicklime is employed for increaſing the activity of alkaline ſalts: if water, ſtrongly impregnated with the lime, be gradually added to

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*(a) Not atmoſpherical air, but the ſpecies of air termed *fixed* or *fixable.*

(b) See Dr. Black's *Experiments on Magneſia, in the Edinburgh eſſays phyſical and literary, vol.* ii. *art.* 8. *and Dr.* Macbride's *experimental eſſays.*

a ſolution of fixt alkali, the calcareous matter ſeparates and ſubſides, ſatiated with air, and no longer acrid or diſſoluble in water; the alkali at the ſame time loſing its air, ſo as to make no effervеſcence with acids, and proving in this ſtate much more acrid than at firſt. Quicklime is ſometimes uſed alſo in external applications as a depilatory; and has been ſometimes made into an unguent with honey for rheumatic and other obſtinate fixt pains of the joints or limbs: this unguent is greatly commended by Fuller, who obſerves that it is almoſt cauſtic.

Solutions of the calcareous matter in water are given internally with ſafety, and in many caſes with advantage. For this purpoſe, a gallon and a half of water is poured by degrees upon half a pound of freſh burnt quicklime, the veſſel ſhaken when the ebullition ceaſes, and then ſet by till the undiſſolved lime has ſettled; after which, the liquor is poured off, and paſſed through a filter. In the laſt Edinburgh diſpenſatory, half a pound of lime is directed to be ſprinkled with four ounces of water in a cloſe veſſel, and when it is fallen to powder, twelve pounds more of water are to be added, and the whole agitated about ten times, keeping the veſſel ſtill cloſe; and the liquor then filtered. Only a ſmall portion of the lime is diſſolved by the water, and the remainder gives a ſtrong impregnation to large quantities of freſh water, though not ſo ſtrong as to the firſt; great part remaining at laſt undiſſolved: this reſiduum, calcined again, becomes quicklime as before: and by repetitions of this proceſs nearly the whole may be diſſolved.

Aqua calcis *Ph. Lond.*

Aqua calcis *Ph. Ed.*

The ſolution has a ſtrong, ſtyptic kind of taſte. It changes the juices of blue flowers to a green colour; precipitates metallic bodies diſſolved in acids; tinges ſilver of a coppery hue; and turns red wine to a dark colour: by theſe properties, the ſtrength of its impregnation with the calcareous matter may be in ſome meaſure eſtimated. The ſpecific gravity of the liquor is increaſed by the lime, in a much greater ratio than the ſmall quantity taken up can effect by the appoſition of its own weight(a); on account, perhaps, of the water being deprived of its air. In veſſels quite filled with the lime-water, and exactly cloſed, it may be kept unchanged for many months: in open veſſels, the calcareous matter ſoon ſeparates from the aqueous fluid, and concretes upon the ſurface into a cruſt, inſipid and indiſſoluble as the earth in its natural ſtate, and again convertible into quicklime by a repetition of the calcination. As moſt kinds of liquids, and many other bodies, are impregnated, more or leſs, with the ſubſtance which lime greedily imbibes, and which renders it indiſſoluble; lime-water ſuffers a ſeparation of part of its lime in moſt mixtures, and probably alſo in the act of its diſſolving bodies: hence, when this liquor is employed as a menſtruum, it is adviſable to add ſome quicklime in ſubſtance, in order to continue the impregnation of the water with the lime.

Lime-water diſſolves, by the aſſiſtance of heat, mineral ſulphur, vegetable oils and reſins, and animal fats: it extracts, in the cold, the virtues of ſundry reſinous and oily vegetables, and diſſolves thick phlegm or mucous matters, and the curd of milk; with which laſt it forms a white liquid, nearly ſimilar in its appearance to milk in its natural ſtate. It has lately been found to diſſolve alſo the human calculus, particularly the lime-water prepared from calcined oyſter-ſhells, which proves a more active menſtruum for this concrete (and poſſibly for other ſubſtances alſo) than that made from the ſtone limes; the diſſolving power of the oyſter-ſhell lime-water ſeeming, from Dr. Whytt's experiments, to be more than double to that of the ſtone lime-waters *(a)*. Taken internally, in conſiderable quantity, it impregnates the urine in ſome degree with its lithontriptic power, and in ſundry calculous caſes has happily given relief.

(a) Whytt, *Edinb. eſſ. & obſ. phyſ. & lit. vol.* i. *art.* xiii. *p.* 383.

Lime-water, drank to the quantity of a quarter of a pint three or four times a day, has been found ſerviceable in ſcrophulous complaints, fluxes, ſeminal weakneſſes, and other diſorders proceeding from an impurity of the fluids, or laxity and debility of the ſolids. It generally promotes urine; oftentimes the cuticular diſcharge; and where the ſtomach is oppreſſed with viſcid phlegm, expectoration. It for the moſt part binds the belly, and ſometimes occaſions a troubleſome coſtiveneſs, unleſs this effect be occaſionally provided againſt by the interpoſition of proper laxatives. It anſwers beſt in cold, ſluggiſh, phlegmatic, and corpulent habits; and is to be uſed more cautiouſly in hot bilious diſpoſitions, and where the patient is greatly emaciated, or the appetite weak, and at the time of any critical or periodical evacuation.

It is cuſtomary to impregnate lime-water with different materials, partly for rendering it more acceptable to the palate and ſtomach, and

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(a) Edinb. medical eſſays, vol. v. *art.* 69. See on this ſubject his *Treatiſe on the virtues of lime-water.*

partly for improving its medicinal efficacy againſt cutaneous defedations. Theſe infuſions are taken in the ſame quantities as the ſimple lime-water, by themſelves, or with the addition of milk.

CAMPHORA.

CAMPHORA Pharm. Lond. & Edinb. Caphura. CAMPHOR: a ſolid concrete, ſomewhat unctuous to the touch: totally volatile in the heat of boiling water, and ſubliming unaltered: melting in a leſs degree of heat into the appearance of oil; readily taking fire on a red-hot iron, and burning entirely away, with a bright white flame, and copious fumes, which condenſing form ſoot; ſoluble in ſpirit of wine, and in oils, and in the nitrous and vitriolic acids, not in water, nor in vegetable acids. From the nitrous acid, diluted with a little water, it abſorbs the ſtronger acid matter, and forms therewith a ſubſtance like oil, which floats on the ſurface of the more phlegmatic liquor: with the vitriolic, it mingles uniformly into a yellowiſh red fluid.

Camphor is extracted, by a proceſs ſimilar to that by which eſſential oils are obtained, from the wood and roots of a large tree of the bay kind, growing in Japan, called by Linnæus *Laurus (camphora) foliis trinerviis lanceolato-ovatis: nervis ſupra baſin unitis.* A ſpecies of camphor is ſometimes likewiſe found naturally concreted into little grains, in the medullary part of this and ſome other trees: I have in my poſſeſſion a piece of a reddiſh wood, which ſeems to be part of the trunk of a large tree, and which on being ſplit in different places exhibits camphor plentifully concreted in it.

*In the *Adverſaria* of the learned Gaubius, is an account tranſmitted by a correſpondent, of the production of camphor in the iſland of Sumatra, which is worthy of notice. There are, it ſeems, only two kinds of camphor known in commerce in the Eaſt Indies, the Sumatran and Japaneſe. The former is ſo much ſuperiour to the latter, that the Japaneſe themſelves readily give a hundred pounds of their own, for one pound of the Sumatran. The reaſon of this probably is, both that the climate of Sumatra is much warmer, and that the camphor there is entirely prepared by nature. In the northern parts of this iſland the camphor tree grows to ſuch a ſize, that planks two feet in breadth are ſawn out of its trunk. After it has ſtood for a certain number of years, its branches naturally crack, and an oily liquor exudes from the fiſſures. When the inhabitants obſerve this, they collect the oil in pieces of bamboo, and watch the time when they have learned by experience that the formation of the camphor is complete. They then, after ſome ſuperſtitious ceremonies, cut down the tree, and ſplitting the branches, which are found full of camphor, pick out the pieces, making ſeparate parcels of the large and the ſmall ones. They conclude with raſping the wood itſelf; and thus make three ſorts of camphor, which they bring to the Dutch factory; ſelling, however, all three together by weight. The largeſt and fineſt pieces are called, in the Malay language, *Copal*, or head; the ſmaller, *Poeroet*, or belly; and the raſpings of the wood, *Cacki*, or feet*(*a*).

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* (*a*) The editor has been favoured with an account of the camphor tree, ſent from Sumatra, which agrees perfectly with the above. The writer further ſays, that the Sumatran camphor tree is certainly a new genus, and not at all reſembling the tribe of *Lauri*.

As firſt ſublimed or diſtilled from the wood, it appears browniſh, and compoſed of ſemipellucid grains mixed with ſome impure matter. In this ſtate, it is imported by the Dutch, and purified by a ſecond ſublimation, by which it becomes clear and white: this laſt proceſs is ſo managed, that the head of the ſubliming glaſs is kept warm enough, to make the camphor run together into a maſs of its own figure; in which form it is brought into the ſhops. It may likewiſe be purified by ſolution in ſpirit of wine; recovered from the ſpirit by diſtillation, the ſpirit riſing before the camphor; and afterwards formed into loaves by fuſion, with a gentle heat, in a cloſe veſſel.

THIS concrete has a fragrant ſmell, ſomewhat approaching to that of roſemary, but much ſtronger; and a bitteriſh, aromatic, pungent taſte, accompanied with an impreſſion of coolneſs. It is looked upon as one of the principal diaphoretics and antiſeptics, and as poſſeſſing ſome degree of an anodyne or antiſpaſmodic power. It is apparently of great ſubtility and penetration, quickly diffuſing itſelf through the habit in a very ſenſible manner: taken in any conſiderable quantity, it generally produces very uneaſy ſenſations about the ſtomach and præcordia, and often in the remoter parts; though it does not heat the body near ſo much, as might be expected from the great pungency of its taſte. Hoffman reports, that doſes even of half a dram did not increaſe the pulſe, or excite any immoderate heat, but occaſioned rather a ſenſe of coolneſs; and that on continuing the uſe of the camphor for ſome time, the blood became more fluid, and the quantity of watery ſerum, which the habit before abounded with, was notably diminiſhed.

* A remarkable account of the effects of camphor in a large doſe on the relater himſelf, Mr. Alexander, ſurgeon, in Edinburgh, is contained in the *Philoſophical Tranſactions, vol.* lvii. *part* 1. After taking one ſcruple of this medicine, he found his pulſe ſomewhat abated in frequency, but no other change in himſelf is remarked. He next took two ſcruples; the firſt effect of which was to ſink the pulſe from 77 to 70. In leſs than half an hour it returned to its former number; and at this time a giddineſs came on, which gradually increaſed, till all conſciouſneſs of preſent, and memory of paſt, objects was obliterated. Violent efforts to vomit, with ſtrong convulſions and a temporary mania, ſucceeded. The pulſe was now raiſed to 100. Some degree of recollection returned; accompanied with a ſenſation of violent heat, and tremors of the whole body. The exhibition of warm water now cauſed a rejection of great part of the camphor; and from this time its effects by degrees wore off. A great ſoreneſs and rigidity of the whole body were felt the next day and the day following. A ſimilar account is related in a theſis *de viribus camphoræ* by Dr. Griffin, printed at Edinburgh in 1765.

In acute diſeaſes, this medicine is given from a quarter of a grain to one or two grains, and ſometimes more, in conjunction commonly with nitre, or other ſubſtances of the antiinflammatory ſaline kind. Hoffman obſerves *(a)*, that it anſwers beſt on the approach

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(a) Diſſ. de uſu camphoræ ſecuriſſimo & præſtantiſſimo; & Med. rational. de febrib. paſſim.

of a criſis, or in the decline: that it is to be uſed with caution during the increaſe, and when the fever is at the height, more eſpecially where the internal heat is great, moiſture deficient, and the ſkin dry: and that it is ſparingly to be given alſo when nature is weak; where a tumidneſs and redneſs of the face, with vertiginous complaints, torpor, and ſleepineſs, ſhew the veſſels of the head to be diſtended; as alſo in palſies, convulſions, and in plethoric and coſtive habits.

In chronical diſorders proceeding from a redundance of ſerous defluxions, or from an impurity of the humours, and as an aſſiſtant to mercurial alteratives, it is uſed more freely, and with leſs danger: in ſome caſes a little opium is joined, which prevents the uneaſineſs which camphor of itſelf is apt to produce, and at the ſame time increaſes its operation by ſweat, a mixture of camphor and opium being one of the moſt potent ſudorifics. Some recommend camphor to be given in maniacal caſes, to the quantity of half a dram every night or oftener; and inſtances have been produced (a) of this practice being attended with ſucceſs.

It has been generally ſuppoſed that this concrete corrects the irritating power of cantharides; and Hoffman looks upon it as a corrector alſo of the ſtimulating cathartics and emetics. It apparently corrects, in a conſiderable degree, the more active mercurial preparations; that is, it determines their operation to the cuticular emunctories, and by promoting their diaphoretic, reſtrains their purgative or emetic virtue: but how far it varies the action of cantharides, and the ſtimulants, purgatives, and emetics of the vegetable kingdom, is not as yet certainly known.

(a) *Philoſophical Tranſactions, n.* 400. *Suenſka vetenſkaps acad. handl. tom.* v. *ann.* 1744.

Camphor may be diſſolved in watery liquors, and thus fitted for being commodiouſly taken, by grinding it with ſugar, almonds, or thick mucilages, and adding the water by degrees. A dram of camphor, rubbed with a few drops of rectified ſpirit of wine till it grows ſoft, requires about four drams of fine ſugar: a pint of boiling water is poured on this mixture, the veſſel cloſely covered, and the liquor, when grown cold, ſtrained out for uſe. Vinegar alſo, by this treatment, diſſolves the camphor equally with water, and is often preferred in acute diſeaſes, whether putrid or inflammatory, as rendering the julep ſomewhat more grateful both to the palate and ſtomach, and excellently coinciding with the medicinal intention. The whole of the camphor, however, is not diſſolved by either; a part, and generally a conſiderable one, remaining behind upon the ſtrainer. Almonds or mucilages render it completely diſſoluble into an emulſion or milky form. The above quantity of camphor requires about twelve almonds; to which mixture a pint of ſome ſuitable aqueous fluid, as the diſtilled water of pennyroyal, is commonly added, and half an ounce of fine ſugar diſſolved in the ſtrained liquor. In this form, vinegar or other acids can have no place, as they coagulate the emulſion, or at leaſt render it incapable of keeping the camphor diſſolved: but nitre may be added in any quantity that may be thought proper, this neutral ſalt mingling uniformly with the liquor, and producing no ſeparation of its parts. Emulſions made with mucilages admit both nitre and acids.

Miſtura camphorat. *Ph. Lond.*

* Dr. Perciral has lately diſcovered that camphor poſſeſſes the property of promoting the union of gummy-reſinous ſubſtances with watery liquors; and alſo of uniting with, by triture, and liquefying, pure reſinous ſubſtances, ſuch as the balſam of Tolu. The detail of his experiments on this ſubject has been communicated to the medical ſociety in London, and will be publiſhed in their next volume with ſome additional experiments by Dr. Chamberlaine.

Spiritus vini camphoratus *Ph. Lond. & Ed.*

A ſolution of camphor in rectified ſpirit of wine, in the proportion of an ounce to a pint, is employed externally againſt rheumatic pains and paralytic numbneſſes, for diſcuſſing tumours and inflammations, and reſtraining the progreſs of gangrenes. On diluting this ſolution with watery liquors, the mixture becomes milky, and on ſtanding for ſome time greateſt part of the camphor ſeparates. It has been ſaid, that with the ſpirit of ſal ammoniac made by quicklime, and with ſaturated alkaline lixivia, it mingles without ſeparation: but, on trial, it turned milky with the former, in the ſame manner as with water; and with the latter it did not mingle at all, the camphorated ſpirit ſwimming diſtinct upon the ſurface of the alkaline lye. It has been reported alſo, that a camphorated ſpirit, uniformly miſcible with water, may be obtained, by grinding the camphor with ſomewhat more than equal its weight of fixt alkaline ſalt, then adding a proper quantity of proof ſpirit, and drawing off one half by diſtillation. This ſpirit, however, does not anſwer expectation: the quantity of camphor that riſes with it is exceeding ſmall, greateſt part remaining behind in the diſtilling veſſel: hence, though when the ſpirit is mixed with a large quantity of water, it occaſions no ſenſible turbidneſs, yet when mixed with only a little water, it exhibits the ſame appearances as the common ſolution, differing no otherwiſe than in degree.

Linimentum camphoræ *Ph. Lond.* The London college has now directed for external application a ſolution of camphor in the proportion of two ounces in a liquor compoſed of ſix ounces of the volatile ſpirit of ſal ammoniac, and ſixteen of ſimple ſpirit of lavender, united by diſtillation.

Camphor is uſed alſo in unguents, for burns, itchings, and ſerpiginous eruptions on the ſkin. It is mixed in a larger proportion, with cataplaſms for the throat againſt inflammations of the uvula and tonſils; and diſſolved, for rheumatic and other pains, in oil of olives, in the proportion of one part of camphor, to four of the oil. Ol. camphorat. *Ph. Ed.* Hoffman reports, that a ſolution of camphor, in empyreumatic vegetable oils that have been rectified by diſtillation from quicklime, procures immediate relief in ſome kinds of violent pains *(a)*.

CANCRORUM CHELÆ.

CHELÆ CANCRORUM Pharm. Lond. Crabs-claws: the black tips of the claws of the *cancer marinus* or common ſea crab.

Chelæ canc. præparatæ *Ph. Lond.* This teſtaceous matter, levigated into an impalpable powder, is made uſe of for abſorbing acidities in the firſt paſſages, and makes the baſis of the compound abſorbent powders of the ſhops: to four parts of the prepared claws, the college of London joins one part of prepared red coral and one of chalk. Pulv. e chelis cancr. comp. *Ph. Lond.* All theſe three ingredients conſiſt of the ſame *calcareous earth:*

(a) In notis ad Poterium, p. 483.

how far any of them is ſuperiour, as a medicine, to the others, or any compoſition of them to any one of the three ſeparately, does not appear. The diſtinguiſhing characters of this kind of earth are, its being convertible, by calcination with a ſtrong fire, into quicklime; its not perfectly vitrefying with a moderate proportion of vitreous fluxes, but rendering the flux or glaſs opake and white; its being diſſoluble in all acids except the vitriolic, and precipitable by this laſt from the others.

CANCRORUM OCULI.

CANCRORUM OCULI dicti Pharm. Edinb. Cancrorum lapides. Crabs-eyes ſo called: ſtony concretions, found in the head, or rather ſtomach, of the *aſtacus fluviatilis* or river craw fiſh; generally about the ſize of peas, or larger; of a roundiſh ſhape, flatted on one ſide; in colour white, ſometimes with a reddiſh, and ſometimes with a bluiſh caſt; internally of a leafy texture. They are ſaid to be brought to us chiefly from Holland: perhaps the greateſt quantities are the produce of Muſcovy, particularly of the river Don, where the craw fiſh, as I have been informed, are extremely plentiful, and have been commonly laid in heaps to putrefy, after which the ſtones are picked out.

Theſe ſtones are ſaid to be ſometimes counterfeited with tobacco-pipe clay, or chalk mixed with glutinous materials. Compoſitions of this kind may be readily diſtinguiſhed from the genuine crabs-eye, by their texture being uniform and not leafy, and by their ſticking to the tongue, and being ſoftened with water. They differ alſo in their habitude to acids; either not diſſolving at all, or diſſolving in another manner.

If genuine crabs-eyes be put entire into ſtrong vinegar, or into aqua fortis largely diluted with water; their earthy part is gradually extracted, and there remains a ſoft tranſparent gelatinous ſubſtance, of the ſame figure with the original concrete: ſuch as were at firſt coloured, retain their colour after the action of the acid. The quantity of this gelatinous matter is much leſs than might be judged from the volume which it occupies; amounting, when the nitrous acid has been uſed, ſcarcely to one tenth part of the weight of the crabs-eyes: vinegar leaves a larger quantity, a part of the earth itſelf ſeeming to eſcape the action of this acid.

Crabs-eyes are uſed as an abſorbent of acid humours, and are ſuppoſed, when combined with the acid, to be more aperient and reſolvent than moſt of the other abſorbent earths: in this intention they are commended by Hoffman, who looks upon a ſolution of them in vinegar as capable of reſolving both ſtagnant thick humours and coagulated blood. * They have lately been employed, by an eminent phyſician at Leyden, with great ſucceſs, in the cure of the fluor albus. He gives to the quantity of half an ounce in a day; and remarks, that it is particularly ſerviceable in that ſpecies of the diſeaſe in which the diſcharge is ſo acrimonious as to corrode the parts *(a)*. Their earth differs remarkably from that of the preceding article, in not being convertible into quicklime; but the medical differences of their ſolutions in vinegar, or in other acids of the vegetable or animal kingdom, do not appear to be very great, the ſolutions of the two earths being in taſte nearly alike. The earth of crabs-eyes, in regard to its chemical characters, is of the ſame nature with that of hartſhorn.

(a) *Med. comment. vol.* 1. *p.* 325.

CANELLA.

CANELLA ALBA Pharm. Lond. & Edinb. Canella alba & Coſtus corticoſus Ph. Pariſ. Cinamomum ſive canella tubis minoribus alba C. B. Winterania Canella Linn. CANELLA ALBA: the inner bark of a large bay-leaved tree, growing in the low lands of Jamaica and other American iſlands: brought over in the form of quills; of which ſome are large and thick, taken from the trunk of the tree; others ſlender and thinner, from the branches; having generally pieces of a wrinkled browniſh coat adhering to the outſide; lined on the inſide with a fine white membrane; breaking over with a cloſe even ſurface, and appearing internally of an unequal, pale, browniſh or yellowiſh white colour.

CANELLA ALBA has hitherto been rarely employed in medicine, unleſs as a ſubſtitute for winter's bark, which it pretty much reſembles, and has been commonly miſtaken for. The London college has now received it in two officinal compoſitions, for alleviating the ill flavour of aloes; and the Edinburgh, in their Tinctura Amara. It is a moderately warm aromatic; of an agreeable ſmell, ſomewhat reſembling that of cloves, but far weaker; and of a pungent taſte, accompanied with a conſiderable bitteriſhneſs.

Infuſions of it in water are of a yellowiſh colour, and ſmell moderately of the canella, but in taſte are rather bitter than aromatic.

Tinctures made in rectified ſpirit are of a darker reddiſh yellow colour, and have more of the aromatic warmth of the bark, but very little of its ſmell. Tinctures in proof ſpirit are more agreeable than either; this menſtruum diſſolving the aromatic as well as the bitter matter of the canella, without covering or ſuppreſſing its flavour like the pure ſpirit.

In diſtillation with water, it yields an eſſential oil, of a dark yellowiſh colour, of a thick tenacious conſiſtence, difficultly ſeparable from the aqueous fluid, in ſmell ſufficiently grateful, though rather leſs ſo than the bark itſelf: the remaining decoction, inſpiſſated, leaves an extract of great bitterneſs, in conſiſtence not uniform, ſeemingly compoſed of a reſinous and gummy matter imperfectly mixed. On inſpiſſating the ſpirituous tincture, the ſpirit, which diſtills, has no great ſmell or taſte of the canella, but is ſo far impregnated with its more volatile oil as to turn milky on the admixture of water: the remaining extract retains the bitterneſs of the bark, but has little more of its warmth or flavour than the extract made with water.

CANNABIS.

CANNABIS C. B. Cannabis ſativa Linn. Hemp: a tall annual herb, with digitated leaves, cultivated in fields on account of the mechanic uſes of its tough rind. Some of the plants, called male, produce flowers; compoſed of yellowiſh ſtamina ſet in five-leaved cups. Others, called female, produce ſeeds; moderately large, covered with a ſhining dark grey-coloured ſhell; under which is lodged a white kernel.

THIS plant has a rank ſmell, of the narcotic kind, and is ſuppoſed to be prejudicial to health. It is ſaid that the effluvia of the freſh herb weaken the eyes, and affect the head (*a*): and that the water, in which the herb has been ſteeped for facilitating the ſeparation of the tough rind, is a violent and ſudden poiſon (*b*). The deleterious power of this liquor may depend, however, not ſolely on the ſpecific virtues of the hemp, but in great part on the ſtrong putrid taint which the ſoluble matter of the herb contracts during the proceſs: for flax, a plant not ſuſpected of any hurtful qualities, is reckoned to give a like poiſonous impregnation to the water in which it is long macerated; inſomuch that the ſteeping of one, as well as of the other, in ſpring or running waters, or ponds in which cattle drink, is prohibited by law (*b*). The leaves of an oriental hemp, called *bangue* or *bang*, and by the Egyptians *aſſis*, are ſaid to be uſed, in the eaſtern countries, as a narcotic, and aphrodiſiac (*c*).

The ſeeds of hemp, when freſh, have a faint ſmell of the herb, which is diſſipated in keeping: their taſte is unctuous and ſomewhat ſweetiſh, accompanied with a ſlight warmth. They yield upon expreſſion a conſiderable quantity of inſipid oil; and unite with water, by trituration, into an emulſion. Decoctions of them in milk, and the emulſions, have been recommended againſt coughs, heat of urine, &c. in which caſes they may be of ſervice, as

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(*a*) Lindeſtolpe, *De venenis, edit. Stentzel. cap.* x. *theſ.* xiii. *p.* 541.

(*b*) Ray, *Hiſt. plant.* i. 159.

(*c*) Kæmpfer, *Amænitates exot. p.* 645. Alpinus, *De med. Ægypt. lib.* iv. *cap.* 2.

emollients and obtunders of acrimony: but the virtues attributed to them againſt incontinence of urine, and for reſtraining venereal appetites, appear to have leſs, if any foundation. They are ſaid to be uſed in ſome places as food; and, when taken freely, to affect the head *(a)*.

CANTHARIDES.

CANTHARIDES Pharm. Lond. & Edinb. Cantharides or Spanish flies: an inſect of the beetle kind, *(Meloe veſicatorius Linn.)* generally about half an inch in length; on the upper ſide, of a ſhining green colour, variegated with more or leſs of a blue and a gold yellow; on the lower ſide, browniſh. Theſe inſects are frequent in Spain, Italy, and the ſouthern parts of France: they are collected from herbs and buſhes, killed by the ſteam of ſtrong vinegar, and afterwards dried in the ſun. The largeſt and beſt are ſaid to come from Italy. They ſhould be choſen freſh coloured, entire, and free from duſt: on long keeping, they are apt to loſe of their colour, and become powdery, and in this ſtate are to be rejected.

Cantharides have little or no ſmell, unleſs the quantity is large; in which caſe they yield a faint diſagreeable one. Cautiouſly taſted, they impreſs a ſlight ſenſe of acrimony: thoſe who deſcribe the taſte as highly acrimonious and cauſtic, have probably judged, not from the direct ſenſation of taſte, but from the conſequential effects. Applied to the ſkin, they firſt inflame, and afterwards excoriate the part; raiſing a more perfect bliſter, and producing a more plentiful diſcharge of ſerum, than any of the vegetable acrids. Hence their common uſe as a veſicatory.

(a) Ray, *Hiſt. plant. p.* 158.

Veſicatories are employed, either as a general ſtimulus, for raiſing the pulſe and quickening the circulation, in low fevers, and in lethargic diſorders; or for reſolving topical obſtructions. Fixt pains, whether external or internal, as in the rheumatiſm, ſciatica, dyſentery, pleuriſies and peripneumonies, are frequently obſerved to yield to a bliſter upon the part; though frequently alſo the matter is lodged ſo deep, as to be beyond the reach of this as well as of other external medicines. Bliſters are likewiſe applied to the head in epileptic and maniacal diſorders, inveterate and periodic head-achs, and obſtinate defluxions on the eyes, in which caſes they are not to be conſidered merely as topical remedies: Hoffman relates, that in defluxions on the eyes, he has known a bliſter, applied to the nape of the neck, increaſe the pain; whilſt one laid on the ſoles of the feet has procured relief as ſoon as the diſcharge from its operation began to take place. Bliſters on the head give the leaſt pain; on the legs the moſt.

The bliſtering applications are generally compoſed of cantharides reduced into fine powder and mixed with plaſters or other compoſitions of a due conſiſtence. Three ounces of the powder are ſtirred into three ounces each of hogs lard, yellow wax, and white reſin, melted together †; or into ſix ounces of the drawing plaſter with the addition of an ounce and a half of hogs lard ‡. Vinegar is ſuppoſed to promote or facilitate the action of the cantharides: for in ſome caſes, where the plaſter without vinegar has failed of taking effect, on removing it and waſhing the part with vinegar, the ſame plaſter, applied

Empl. veſicatorium † *Ph. Ed.*

Empl. cantharidis ‡ *Ph. Lond.*

again, has bliſtered freely: it is probable, however, that this was owing, not ſo much to any peculiar quality of the vinegar, as to its ſoftening and deterging the ſkin; an effect which is not to be expected from it when mixed with the other ingredients of the plaſter. Other ſtimulating ingredients are ſometimes added, as pepper, muſtard-ſeed, and verdigris; but it does not appear that theſe kinds of ſubſtances give any material aſſiſtance to the action of cantharides. The powdered flies ſpread on the ſurface of a common plaſter operate as effectually as any of the compoſitions, and in this form they are often uſed.

In ſome caſes, as in variolous eruptions or other inequalities of the ſkin, compoſitions of a ſofter conſiſtence than plaſters are required, that they may apply themſelves to the depreſſed parts: for theſe purpoſes, equal quantities of finely powdered cantharides and wheat flour are mixed with vinegar into a paſte. Where bliſters are intended to be made perpetual, or continued, as a conſtant drain of ſerous humours, for a conſiderable time, ſome cantharides are added occaſionally in the dreſſings, to keep the ulcers open: an ointment for this intention is prepared by melting ſeven parts of yellow baſilicon, and then adding one part of powdered cantharides.

Ung. epiſpaſ. e pulvere Cantharidum *Ph. Ed.*

Cantharides are applied alſo, in ſmaller quantity, ſufficient to warm and ſtimulate the part conſiderably, but not to raiſe a bliſter, againſt ſome rheumatic pains, chilblains, and paralytic affections. In this intention, the bliſtering compoſitions are diluted with other plaſters, in ſuch proportion, that the quantity of the fly may be about one twenty-ſixth part of the whole compound.

Emp. calidum *Noſocom. Ed.*

The external uſe of cantharides, if the quantity be conſiderable, is often followed by a ſtrangury and heat of urine; this inſect being peculiarly diſpoſed to affect the urinary organs, though applied to the remoteſt parts. This inconvenience is prevented or remedied, by emulſions or mucilaginous liquors plentifully drank.

Small doſes of cantharides are given internally in ſuppreſſions of urine, and for deterging ulcerations of the bladder. They have likewiſe been found remarkably ſerviceable in ſeminal weakneſſes and old gleets; in which the balſamic medicines, generally recommended, are often ineffectual *(a)*. In leprous caſes alſo they have frequently had excellent effects, in virtue perhaps of their diuretic power; for ſo great is the conſent of the kidneys with the ſkin, that the humours accumulated in the cutaneous glands may be diſcharged by urine; as the urinary liquor, when the kidneys fail in their office, ſometimes tranſpires through the ſkin *(b)*.

Great caution is requiſite in the uſe of this highly ſtimulating medicine; a ſmall exceſs in the doſe producing not only a ſtrangury, but a diſcharge of blood, with intenſe pains about the neck of the bladder: a grain, and even a quarter of a grain *(c)*, has in ſome caſes had this effect. The remedy for theſe ſymptoms, in good habits, and where the cantharides have not been greatly overdoſed, conſiſts in plentiful

(a) Mead, *Monita & præcepta, p.* 256.

(b) Idem, *Medica ſacra, p.* 24.

(c) Hermann, *Cynoſura, m. m. pars* ii. *edit. Boecler. p.* 56.

dilution with emollient liquors in which ſome nitre has been diſſolved, with the interpoſition of moderate doſes of opium. It is commonly ſuppoſed that camphor, given along with the fly, corrects in ſome degree its irritating power.

Cantharides, digeſted in rectified ſpirit, impart to it a bright yellow tincture, and have their own colour improved: boiling water receives from them a muddy yellowiſh or browniſh hue, and conſiderably impairs the colour of the fly. The active matter of the cantharides is completely taken up by both menſtrua, and does not riſe with either in diſtillation or evaporation: the ſubſtance of the fly remaining after digeſtion either in water or in ſpirit, does not in the leaſt bliſter or inflame the ſkin; whereas both the watery and ſpirituous extracts bliſter freely.

The ſafeſt and moſt commodious form for taking cantharides internally, is the ſpirituous tincture; which, dropt into watery or vinous liquors, mingles uniformly, without precipitation or turbidneſs. Two drams of the cantharides, bruiſed a little, are commonly digeſted two or four days in a pint and a half or two pints of proof ſpirit, with or without the addition of half a dram or more of cochineal as a colouring ingredient. Theſe tinctures are uſually given from fifteen to thirty or more drops twice a day: the moſt certain method of obtaining, without danger, the full effect of the cantharides, is, to begin with the ſmaller doſe, and increaſe it by two or three drops at a time, till a little uneaſineſs is perceived in making water; after which, the medicine being intermitted for a day or two, the doſe is to be diminiſhed

Tinct. canth. *Ph. Lond.* *Ph. Ed.*

minifhed a little, and continued juſt below the quantity which produced that effect.

A ſoft extract of cantharides is in many caſes preferable, for external purpoſes, to the ointments and plaſters made with the powdered fly, particularly for the dreſſing of perpetual bliſters; as it acts more uniformly than the compoſitions containing the fly in ſubſtance, and occaſions leſs pain in the dreſſing. Hoffman's *mild bliſter which gives little pain*, mentioned now and then in his works, ſeems to have been, or to have had for its baſis, a preparation of this kind; and probably the empyrical *perpetual bliſter* is no other. The colleges of Edinburgh and London have received a compoſition on the ſame principle: the former direct an ounce of cantharides to be infuſed for a night in four ounces of boiling water, the liquor to be ſtrongly preſſed and ſtrained out, and boiled with two ounces of hogs lard till the humidity is waſted; after which, an ounce of white reſin, an ounce of yellow wax, and two ounces of Venice turpentine, are to be added, and the whole well mixed ſo as to form a ſmooth ointment: the latter order two ounces of the powder of cantharides to be boiled in eight ounces of water to the conſumption of half the liquor, which is then to be ſtrained, and added to eight ounces of the yellow reſin ointment, and the mixture evaporated in a brine bath to a due conſiſtence.

Unguentum epiſpaſticum ex infuſo cantharidum *Ph. Ed.*

Unguentum cantharidis *Ph. Lond.*

CARANNA.

CARANNA: a concrete reſinous juice; exuding from a large tree, of which we have no particular account; brought from New Spain, and ſome other parts of America, in little maſſes, rolled up in leaves of flags; externally of a dark browniſh colour, internally brown with a caſt of red, variegated with irregular white ſtreaks; ſomewhat ſoft and tenacious as it firſt comes over, but in length of time growing dry and friable.

This juice has an agreeable ſmell, eſpecially when heated, and a bitteriſh and ſlightly pungent taſte. Water diſſolves about one fourth of it, and rectified ſpirit above three fourths: what is left by the one menſtruum diſſolves in the other, a ſmall quantity of impurities excepted: both ſolutions are of a bright yellow colour, the ſpirituous deepeſt.

The watery tincture ſmells agreeably of the caranna, and is in taſte bitteriſh and ſomewhat warm. In diſtillation with water, there ſeparates from the aqueous fluid a conſiderable quantity of an orange-coloured eſſential oil, of a very fragrant ſmell, and a moderately pungent taſte: the remaining decoction, inſpiſſated, leaves an extract of an ungrateful, though weak, bitteriſhneſs.

The ſpirituous tincture is both in ſmell and taſte ſtronger and more agreeable than the watery. Inſpiſſated, it yields a very tenacious adheſive reſin, with an oily matter which ſeparates and floats on the ſurface: the reſin has very little ſmell, and ſcarcely makes any impreſſion on the organs of taſte: the oil is conſiderably aromatic, and moderately bitter, in which laſt reſpect it differs from the purer oil obtained by diſtillation with water.

Caranna has been chiefly employed as an ingredient in vulnerary balſams, corroborant and diſcutient plaſters, and other external applications. It has very ſeldom been given internally,

nally, and is now, in this country, almoſt wholly in diſuſe.

*CARDAMINE.

CARDAMINE Pharm. Lond. & Edinb. Naſturtium pratenſe magno flore C. B. Cardamine pratenſis Linn. Ladies-smock or Cuckow flower: a plant, of the claſs *tetradynamia* of Linnæus, in taſte reſembling creſs. It has an erect ſtalk; and leaves ſet in pairs on a middle rib, with an odd one at the end. Its flower is white or purpliſh, and is ſucceeded by a bivalvular pod. It grows plentifully in moiſt meadows, and flowers early in the ſpring.

The virtue of the flowers of ladies-ſmock, in hyſteric and epileptic caſes, was firſt noticed by Ray; and their uſe has been revived by Sir George Baker, who has publiſhed ſome caſes of their efficacy in the *Medical Tranſactions, vol.* I. The flowers are given in powder, in doſes of from thirty to ninety grains. They have little ſenſible effect, ſit eaſy on the ſtomach, and increaſe the appetite. Their antiſpaſmodic powers ſeem, from the caſes related, to be conſiderable.

CARDAMOMUM.

CARDAMOM: a dried fruit or pod, brought from the Eaſt Indies; divided internally into three cells, in each of which are contained two rows of triangular ſeeds, of a browniſh colour on the outſide and white within.

1. Cardamomum minus *Pharm. Lond. & Edinb. Cardamomum ſimpliciter in officinis dictum*

C. B. Cardamom, leſſer cardamom: with ſhort triangular huſks, ſcarce half an inch in length; the produce of a plant with reed-like ſtalks, deſcribed in the *Hortus malabaricus* under the name of *Elettari*; the *Amomum Cardamomum* of Linnæus.

Theſe ſeeds, freed from the huſks, are an elegant and uſeful aromatic, of a grateful ſmell and flavour, very warm, yet not fiery, or ſubject, like the ſpices of the pepper kind, to produce immoderate heat. The huſks ſhould be ſeparated only at the time of uſe; for the ſeeds ſoon loſe a part of their flavour in being kept without this defence.

Their virtue is extracted, not only by rectified ſpirit, but almoſt completely by water alſo; with this difference, that the watery infuſion is cloudy or turbid, the ſpirituous clear and tranſparent: the colour of both is a pale yellow. Scarcely any of the aromatic ſeeds give out ſo much of their warmth to watery menſtrua, or abound ſo much with gummy matter, which appears to be the principle by which the aromatic part is made diſſoluble in water: the infuſion is ſo mucilaginous, even in a dilute ſtate, as hardly to paſs through a filter.

In diſtillation with water, a conſiderable quantity of eſſential oil ſeparates from the watery fluid, of a pale yellowiſh colour, in ſmell exactly reſembling the cardamoms, and of a very pungent taſte: the remaining decoction is diſagreeably bitteriſh and mucilaginous, retaining nothing of the pungency or warmth, any more than of the peculiar flavour of the ſpice. On inſpiſſating the tincture made in rectified ſpirit, a part of the flavour of the cardamoms ariſes with the ſpirit, but greateſt part remains behind concentrated in the extract; which ſmells moderately of the ſeeds, and has a pungent aromatic taſte, very durable in the mouth, and rather more grateful than that of the ſeeds in ſubſtance.

Tinctures of this ſpice both in rectified and proof ſpirit are more agreeable than the watery infuſions; and proof ſpirit, impregnated with its flavour by diſtillation, more agreeable than the ſimple diſtilled water. A ſimple tincture of ſix ounces of the ſeeds, in a quart† or two pints and a half‡ of proof ſpirit; and a compound tincture, made of cardamoms, caraway ſeeds, cinnamon, cochineal, and raiſins, infuſed in proof ſpirit; are kept in the ſhops, and occaſionally made uſe of as pleaſant warm cordials and for flavouring other medicines. I have not obſerved any of the aromatics to anſwer, in general, ſo well as the tincture of this ſpice, for rendering mineral waters and other ſaline liquors acceptable to the ſtomach.

Tinct. cardamomi
†*Ph. Lond.*
‡*Ph. Ed.*
Tinct. cardamom. comp. *olim* Tinct. ſtomachic. *Ph. Lond.*

2. CARDAMOMUM MEDIUM *Pharm. Pariſ. Cardamomum majus officinarum C. B.* Greater cardamom: with thicker and tougher huſks, an inch or more in length; the produce of a plant of the ſame kind with the preceding, but larger. There is ſome confuſion in regard to the name, that of *cardamomum majus* being applied among us to this ſpecies, and in France to the *grana paradiſi*, of which hereafter.

The ſeeds of the greater cardamom are allowed by the faculty of Paris to be uſed indifferently with thoſe of the leſſer: the large kind, however, is much weaker than the other, both in ſmell and taſte, and hence has in this country been long diſregarded, and is now become a ſtranger to the ſhops. Both ſorts are nearly of the ſame nature, the difference being chiefly in degree.

CARDIACA.

CARDIACA ſeu Agripalma Pharm. Pariſ. Marrubium cardiaca dictum C. B. Leonurus Cardiaca Linn. MOTHERWORT: a large plant, with ſquare branched ſtalks, the leaves ſet in pairs on long pedicles at the joints, and the flowers in cluſters round the upper joints: the leaf is dark coloured, cut deeply into three ſharp-pointed indented ſegments, of which the middle one is longeſt, and the two lateral ones commonly again deeply cut: the flower is purpliſh, labiated, with the upper lip long and arched, the lower ſhort and cut into three ſections. It is biennial, grows wild in waſte grounds, and flowers in July.

THIS plant is ſaid to be uſeful in diſorders of the ſtomach proceeding from thick phlegm; to looſen the belly; to promote perſpiration, urine, and the uterine purgations. Such, in effect, are the virtues, which may be expected from its ſenſible qualities. The leaves and the tops have a moderately ſtrong ſmell, not very agreeable; and a very bitter taſte. In keeping for ſome time, or on boiling them in water, their ſmell is diſſipated: the decoction, inſpiſſated to the conſiſtence of an extract, diſcovers to the taſte a ſtrong penetrating ſubſaline bitterneſs.

CARDUUS.

CARDUUS BENEDICTUS Pharm. Lond. & Edinb. Cnicus ſilveſtris hirſutior ſive carduus benedictus C. B. Centaurea benedicta Linn. HOLY THISTLE: a plant with rough, narrow, jagged leaves, terminating in ſoft prickles; and large, hairy, branched ſtalks, leaning to the ground; on the tops of which grow large, ſcaly, prickly heads, including a number of yellow floſculi, which are followed by oblong ſtriated ſeeds incloſed in down. It is a native of Spain and ſome of the iſlands of the Archipelago, and ſown annually with us in gardens.

The leaves of carduus have a penetrating bitter taſte, not very ſtrong, or very durable in the mouth; accompanied in their recent ſtate, with ſomewhat of an ungrateful flavour, which they ſoon loſe in keeping. The herb, when thoroughly dried, ſhould be hung up looſely in an airy place; being very ſubject, if preſſed cloſe, to rot or grow mouldy.

Cold water, poured on the dry leaves, extracts, in an hour or two, a light grateful bitterneſs: by ſtanding long upon the plant, the liquor becomes diſagreeable: a ſtrong decoction is very nauſeous and offenſive to the ſtomach. A cold infuſion and a decoction being ſeparately inſpiſſated, the ſame differences were obſerved between the extracts, as between the liquors in their dilute ſtate; the extract obtained from the infuſion being a ſufficiently agreeable bitter, and that from the decoction diſguſtful; a proof, that the differences of the liquors do not dedepend, as might be ſuppoſed, on their degree of ſaturation, but on their being impregnated with matters of a different kind.

Rectified ſpirit alſo extracts, in a ſhort time, the lighter bitter part of the carduus, but does not take up the nauſeous near ſo eaſily as water: a ſpirituous tincture prepared by warm digeſtion for ſeveral hours, and the extract obtained by inſpiſſating it, were more ſtrongly but not unpleaſantly bitter. The colour of the watery tinctures is a yellowiſh or greeniſh, inclining more or leſs to brown, according as they are more or leſs ſaturated; that of the ſpirituous, a deep green.

On keeping the ſoft watery extracts for ſome months, a conſiderable quantity of ſaline matter was found to have ſhot upon the ſurface, into ſmall cryſtals, in ſhape approaching to thoſe of nitre, in taſte bitteriſh with an impreſſion of coolneſs.

The virtues of this plant ſeem to be little attended to in the preſent practice. The nauſeous decoction is ſometimes uſed to excite vomiting, and a ſtrong infuſion to promote the operation of other emetics: but this elegant bitter, when extracted from the offenſive parts of the herb, may be advantageouſly applied to other purpoſes. I have frequently obſerved excellent effects from a light infuſion of carduus, in weakneſs of appetite and indigeſtion, where the ſtomach was injured by irregularities and oppreſſed by viſcid phlegm: nor have I found any one medicine of the bitter kind to ſit ſo eaſily on weak ſtomachs, or to heat ſo little. Theſe infuſions, taken freely, promote the natural ſecretions. Drank warm in bed, they commonly increaſe perſpiration or excite ſweat; and as they act with great mildneſs, not heating or irritating conſiderably, they have been uſed, in this intention, in acute as well as chronical diſeaſes.

The ſeeds of carduus are likewiſe conſiderably bitter, and have ſometimes been uſed as ſudorifics or diaphoretics, in the form of emulſion. Cartheuſer obſerves, that they give the proper conſiſtence of an emulſion to ten times their weight or more of water: and that they do not impart a perfect whiteneſs, but a greyiſh colour to the liquor.

CARICÆ.

CARICÆ Pharm. Lond. & Edinb. FIGS: the dried fruit of the *ficus communis C. B. Ficus Carica Linn.* a tree of a middling ſize, with large leaves cut into five ſegments; remarkable for producing no flowers previous to the fruit; growing ſpontaneouſly in the warmer climates, and cultivated in our gardens.

FIGS are accounted moderately nutrimental, grateful to the ſtomach, and eaſier of digeſtion than any of the other ſweet fruits. Their principal medicinal uſe is as a lubricating emollient ſweet; in which intention, they are commonly made an ingredient in pectoral decoctions, and in lenitive electaries. They are employed externally, in cataplaſms, for promoting the ſuppuration of inflammatory tumours; for which purpoſe they appear to be equally adapted with other ſoft ſubſtances void of acrimony or irritation.

CARLINA.

CARLINA: a perennial plant, with long, narrow, deeply jagged, and very prickly leaves, lying on the ground; in the middle of which grows a large roundiſh head, without any ſtalk, encompaſſed with ſmaller leaves, full of ſharp prickles: the flower iſſues from the middle of the head.

1. CARLINA *ſive Chamæleon albus. Carlina acaulos magno flore C. B. Carlina acaulis Linn.*

Cardopatium. CARLINE THISTLE: with the flower compoſed of a number of white petals ſet round a middle diſk. It is a native of the mountainous parts of Italy and Germany, from whence the dried roots are ſometimes brought to us. Theſe are about an inch thick, externally of a ruſty or reddiſh brown colour, internally of a pale yellowiſh or browniſh, corroded as it were upon the ſurface, and perforated with ſmall holes, ſo as to appear, when cut, as if worm-eaten.

THE roots of carline thiſtle have a moderately ſtrong, not agreeable ſmell; and a weak, bitteriſh, ſubacrid, ſomewhat aromatic taſte. Infuſions of them in water have very little taſte, and not much ſmell: diſtilled with water, they yield a two-hundredth part of their weight, or a little more, of a thick ponderous eſſential oil, which, on being rectified or rediſtilled, leaves a conſiderable proportion of reſinous matter and becomes thin *(a)*: the decoction, remaining after the ſeparation of this moſt active principle of the root, is unpleaſantly bitteriſh and ſubſaline, though only weakly ſo even when inſpiſſated to an extract. A tincture and extract prepared with rectified ſpirit are ſtronger in taſte than thoſe made with water, but have little ſmell. Both the watery infuſion and extract are of a browniſh yellow colour, the ſpirituous of a deep gold yellow.

This root is ſuppoſed to be diaphoretic, antihyſteric, and anthelmintic. It has been greatly eſteemed by ſome foreign phyſicians in acute malignant as well as in chronical diſeaſes; and given in ſubſtance from a ſcruple to a dram,

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(a) Neumann, *Chem. works, p.* 406.

and in infuſion from one to two drams and more. It never came much into uſe among us, and is now rarely to be met with in the ſhops. Frederic Hoffman the elder relates, that he has known a decoction of it in broth excite vomiting *(a)*, but does not mention the quantity which produced this effect.

2. CARLINA GUMMIFERA; *Carduus pinea*; *Ixine. Carlina acaulos gummifera C. B. Chamæleo albus dioſcoridis Columnæ. Atractylis gummifera Linn.* PINE THISTLE: with the flowers compoſed of purpliſh floſculi, like thoſe of the common thiſtle. It is a native of Italy and the iſland of Candy.

THE roots of the pine thiſtle are larger than thoſe of the carline, and of a ſtronger ſmell. Wounded when freſh, they yield a viſcous milky juice, which concretes into tenacious maſſes, at firſt whitiſh and reſembling wax, when much handled growing black, ſuppoſed to be the *ixion*, *ixia*, and *acanthina maſtiche* of the ancients. The juice, in taſte and ſmell not ungrateful, is ſaid to have been formerly chewed for the ſame purpoſes as maſtich; and the root itſelf to be of the ſame virtue with that of the preceding ſpecies.

CARPOBALSAMUM.

CARPOBALSAMUM. The fruit of the tree that yields the balſam of Gilead. It is about the ſize of a ſmall pea, with a ſhort pedicle; of a roundiſh or oval figure, pointed at the top; compoſed of a dark brown or reddiſh black, wrinkled bark, marked with four ribs from top to bottom, and a whitiſh or yellowiſh medullary ſubſtance (a).

(a) *Clavis Schræder. p.* 431.

THIS fruit, when in perfection, is ſaid to have a pleaſant warm, bitteriſh taſte, and a fragrant ſmell reſembling that of the balſam itſelf. But ſuch as is now and then met with in the ſhops, (for it is but rarely to be met with there) has almoſt wholly loſt both its ſmell and taſte. It is no otherwiſe made uſe of in this country than as an ingredient in mithridate and theriaca; in both which, its place is commonly ſupplied by materials of more efficacy than itſelf: ſome direct juniper berries, the London college cubebs, for its ſubſtitute.

CARTHAMUS.

CARTHAMUS Pharm. Pariſ. Cnicus ſativus ſive carthamus officinarum C. B. Carthamus tinctorius Linn. SAFFLOWER: a plant with oval pointed leaves, ſomewhat prickly about the edges, joined cloſe to the ſtalk, which is round, firm and branched: on the tops grow large ſcaly heads, with ſaffron-coloured fiſtular flowers ſtanding out from them: theſe are followed by ſmooth white ſeeds, of an oblong roundiſh ſhape, yet with four ſenſible corners, remarkably heavy ſo as to ſink in water. It is an annual plant, a native of Egypt, and cultivated in large quantity in ſome parts of Germany on account of the uſes of its flowers in dying. It is ſometimes raiſed among ourſelves; but the ſeeds, which are the part that has been chiefly made uſe of in medicine, ſeldom come to perfection in this climate.

(a) *Vide* Proſp. Alpin. *Dialog. de balſamo.*

The ſeeds of carthamus, freed from the ſhells, have an unctuous ſweetiſh taſte, which on chewing them for a little time becomes acrid and diſagreeable: they form an emulſion on trituration with water, and give out to ſpirit a little nauſeous acrid matter. They have been celebrated as a gentle cathartic, in doſes of a dram or two in ſubſtance and ſix or eight drams in emulſion: but as they operate very ſlowly, and are apt, eſpecially when given in ſubſtance, to occaſion nauſeæ, flatulencies, and diſtenſions of the ſtomach; their uſe has long been laid aſide, and the colleges both of London and Edinburgh have now diſcarded them from their catalogues of officinals.

The flowers have been ſometimes employed as a colouring drug for alimentary and medicinal ſubſtances; and when well cured, are not eaſily diſtinguiſhable by the eye from ſaffron, though they have nothing of its ſmell or taſte. They give a deep ſaffron tincture to rectified ſpirit, and a paler yellow to water. After the yellow matter has been extracted by water, the flower appears red, and communicates a deep red colour to ſpirit of wine or to alkaline lye.

CARUI.

CARUON Pharm. Lond. Carvi Pharm. Edinb. Cuminum pratenſe carui officinarum C. B. Carum Carvi Linn. Caraway: an umbelliferous plant, with ſtriated branched ſtalks, two or three feet high; and finely divided leaves ſet in pairs along a channelled rib; every two of which ribs or pedicles croſs one another at their origin on the ſtalk: the ſeeds are ſmall, of a browniſh or blackiſh colour, ſomewhat bent, ſtriated, flat on one ſide, convex on the other. It is a native of the northern climates: in this kingdom it is rarely found wild, but commonly cultivated in gardens for culinary and confectionary as well as medicinal purpoſes. It is biennial.

Caraway ſeeds are an uſeful ſtomachic and carminative; of a ſufficiently agreeable aromatic ſmell, and a moderately warm taſte: they are given, in ſubſtance, from a ſcruple to a dram. The leaves have the ſame kind of flavour with the ſeeds, but are conſiderably weaker and leſs grateful. The roots have a ſweetiſh taſte, accompanied with a ſlight warmth, and very little ſmell.

The ſeeds give out the whole of their virtue, by moderate digeſtion, to rectified ſpirit; for after the action of this menſtruum they prove inſipid and inodorous: the tincture taſtes ſtrongly of the caraways, but their ſmell is in great meaſure covered by the menſtruum. The ſpirit, gently diſtilled off from the filtered liquor, brings over very little of the flavour of the caraways, leaving nearly all their active matter concentrated in the extract, which proves a very warm pungent aromatic. The colour, both of the tincture and extract, is a yellowiſh verging to green.

Infuſions of the ſeeds in water are ſtronger in ſmell than the ſpirituous tincture, but much weaker in taſte: after repeated infuſion in freſh portions of water, they ſtill give a conſiderable taſte to ſpirit. The colour of the watery infuſions is a pale reddiſh brown. In diſtillation or evaporation, water elevates all the aromatic part of the caraways: the remaining extract is almoſt inſipid, and thus diſcovers, that in caraways there is leſs, than in moſt of the other warm ſeeds of European growth, of a bitteriſh or ungrateful matter joined to the aromatic. Along with the aqueous fluid there ariſes in diſtillation a very conſiderable quantity, about one ounce from thirty, of eſſential oil, of a bright yellow colour, ſmelling ſtrongly of the caraway, in taſte hotter and more pungent than thoſe obtained from moſt of our other warm ſeeds*(a): this oil is given from one to five or ſix drops, as a carminative; and is ſuppoſed alſo to be of peculiar efficacy for promoting urine, to which it communicates ſome degree of its ſmell. The leaves of the plant afford likewiſe an oil, nearly ſimilar, both in colour and quality, to that of the ſeeds, but in far leſs quantity: ſixteen pounds of the herb in flower, ſtripped from the ſtalks, yielded ſcarcely an ounce. The eſſential oil of the ſeeds is directed as an officinal; as alſo a cordial water, pretty ſtrongly flavoured with them by drawing off a gallon † or nine pints ‡ of proof ſpirit from half a pound of the caraways.

Ol. eſſent. carui *Ph. Lond.*

Aqua *vel* ſpiritus carui
† *Ph. Lond.*
‡ *Ph. Ed.*

CARYOPHYLLA.

CARYOPHYLLA AROMATICA Pharm. Lond. & Edinb. Caryophyllus aromaticus ſeu potius garyophyllus Pharm. Pariſ. CLOVES: the unripe fruit, or perhaps more properly the cups of the unopened flowers, of a bay-like tree growing in the Eaſt Indies; *Caryophyllus aro-*

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*(a) M. Beaumé obtained from ſix pounds of unbruiſed caraway ſeeds, four ounces of eſſential oil, as colourleſs as water.

maticus Linn. In ſhape they ſomewhat reſemble a ſhort thick ſquare nail, of a ruſty colour inclining to black: in the inſide of each clove are found a ſtylus, and ſtamina, with their apices: at the larger end ſhoot out, from the four angles, four little points like a ſtar; in the middle of which is a round ball, of a lighter colour than the reſt, compoſed of four ſmall ſcales or leaves, which ſeem to be the unexpanded petala of the flower. The tree is one of thoſe, whoſe flower is produced above the rudiments of the fruit: the ripe fruit, ſometimes brought into Europe under the name of *anthophyllus*, is marked on the top with the remains of the flower; it is about the ſize and ſhape of an olive, and contains, under a thin blackiſh ſhell, a hard kernel of the ſame colour, which has a deep longitudinal ſeam on one ſide. The cloves are ſaid to be cured by expoſing them to ſmoke, and afterwards drying them in the ſun.

The clove has a ſtrong agreeable ſmell, and a bitteriſh, hot, very pungent taſte: it is one of the hotteſt and moſt acrid of the ſubſtances of the aromatic claſs, and as ſuch is often uſed, not only internally, but as an external ſtimulant. The antophyllus has the ſame kind of flavour with the clove itſelf; but being far weaker, in ſmell as well as in taſte, it is very rarely applied to any medicinal purpoſes, and is now ſcarcely ever to be met with in the ſhops.

The clove is remarkably diſpoſed to imbibe humidity; and when robbed of its active parts by infuſion in menſtrua or diſtillation, and afterwards mixed with freſh cloves, it regains from them a conſiderable ſhare both of taſte and ſmell. The Dutch, through whoſe hands this ſpice is brought to us, have often practiſed this abuſe; which, however, may be eaſily diſcovered; for thoſe cloves which have once loſt their virtue, continue always not only weaker than the reſt, but likewiſe of a much paler colour.

Tinctures of cloves in rectified ſpirit are of a dark reddiſh brown colour, of no great ſmell, but of a highly acrid taſte: if the quantity of ſpirit be conſiderable, it leaves the clove deprived of all its virtue. On inſpiſſating the filtered tincture, the ſpirit, which diſtills, is found to have very little impregnation from the ſpice: the remaining extract, nevertheleſs, does not diſcover ſo much ſmell as the clove in ſubſtance, but its taſte is exceſſively pungent and fiery. The quantity of this burning extract amounts to about one third the weight of the clove.

Digeſted or infuſed in water, they impregnate the liquor more ſtrongly with their ſmell than they do ſpirit, but not near ſo much with their taſte: after repeated infuſion in water, they impart ſtill a conſiderable tincture to rectified ſpirit. In diſtillation with water, they give over, very ſlowly, near one ſixth their weight(a) of eſſential oil; when carefully diſtilled, colourleſs; by age, changing to a yellow, and at length to a reddiſh brown colour; when drawn with a ſtrong fire, proving often of this colour at firſt; ſmelling ſtrongly of the cloves; but in taſte only moderately pungent, very much leſs ſo than the ſpirituous extract. Neither the remaining clove nor decoction have any conſiderable taſte; the pungency of this ſpice ſeeming to depend, not on the volatile or fixt parts ſeparately, but on the combination of the two (*a*).

(a) Hoffman, *Obſervationes phyſico-chymicæ, lib.* i. *obſ.* 3.

The oil of cloves commonly met with in the ſhops, and received from the Dutch, is indeed highly acrimonious: but this oil is plainly not the genuine diſtilled oil of the clove; for notwithſtanding its being more pungent than that which cloves afford by the common proceſs of diſtillation, it contains a large admixture, oftentimes half its weight or more, of an inſipid expreſſed oil; as appears upon treating it with rectified ſpirit, which diſſolves the pungent aromatic matter, and leaves the groſs inſipid oil. It is probably from an admixture of the reſinous part of the clove, that this ſophiſticated oil receives both its acrimony and high colour. Freſh cloves are ſaid to yield a high coloured, thick, fragrant oil upon expreſſion: poſſibly the common oil of cloves, brought from the ſpice iſlands, is no other than this oil, diluted with inſipid ones. Perhaps the common oil, as being moſt pungent, is beſt adapted for ſome external purpoſes, as the genuine doubtleſs is for thoſe of an internal aromatic.

CARYOPHYLLATA.

CARYOPHYLLATA vulgaris C. B. Geum urbanum Linn. AVENS, or HERB-BENIT: a roughiſh plant, with dark-coloured winged leaves, reſembling thoſe of agrimony; and pentapetalous yellow flowers, ſtanding in ten-leaved cups on the tops of the branches, followed, each, by a round cluſter of hairy ſeeds with hooked tails: the roots are ſlender, full of fibres,

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(*a*) Neumann, *De caryoph. aromat. Chem. works, p.* 413. Cartheuſer, *m. m.* ii. 383.

of a dark browniſh colour on the outſide, and reddiſh within. It is perennial, grows wild in woods and hedges, and is found in flower greateſt part of the ſummer.

The root of avens has been employed as a gentle ſtyptic, corroborant, and ſtomachic; and for theſe intentions continues, not undeſervedly, of ſome eſteem in foreign countries, though very little regarded among us. It has a mildly auſtere ſomewhat aromatic taſte; and a very pleaſant ſmell, ſomewhat of the clove kind, eſpecially in the ſpring, and when produced in dry warm ſoils: ſuch as is the growth of cloſe, ſhady, moiſt places, has little and often nothing of this flavour.

This root gives out its aſtringent matter equally to watery and ſpirituous menſtrua, its aromatic part moſt perfectly to the latter: the aqueous infuſion is of a reddiſh brown colour, the ſpirituous of a deep yellow. In diſtillation with water, it yields a ſmall quantity of a whitiſh concrete oily matter, of a very grateful fragrance: the remaining decoction, inſpiſſated to the conſiſtence of an extract, is moderately aſtringent. On committing to diſtillation the ſpirituous tincture, little or nothing comes over with the ſpirit; the aromatic part of the root, as well as the auſtere, remaining concentrated in the extract. The ſmell, which in the tincture is concealed or ſuppreſſed by the menſtruum, diſcovers itſelf again when the ſpirit is drawn off.

CARYOPHYLLUS RUBER.

CARYOPHYLLA RUBRA Pharm. Lond. & Edinb. Caryophyllus altilis major C. B. Dianthus

anthus Caryophyllus Linn. CLOVE-JULY-FLOWER, or GILLIFLOWER: a plant with many ſmooth round jointed ſtalks, and graſs-like bluiſh-green leaves ſtanding in pairs at the joints: the flower is compoſed of five petals, narrow at the baſes, broad and jagged at top, ſet in an oblong cylindrical cup, which is covered at bottom with four ſhort ſcales forming as it were a ſecondary cup: after the flower has fallen, the cup becomes a covering to a number of ſmall, flat, wrinkled, black ſeeds. It is perennial, and ſaid to be a native of Italy.

MANY ſpecies or varieties of theſe flowers are common in our gardens. Thoſe employed for medicinal uſes, to which the name of clove-july-flower, is more particularly appropriated, are of a deep crimſon colour, and a pleaſant aromatic ſmell ſomewhat akin to that of the clove ſpice: their taſte is bitteriſh and ſubaſtringent. In drying, their taſte becomes ſtronger, and their ſmell is not ſo ſoon diſſipated as that of many other fragrant flowers.

Clove-july-flowers have been recommended as cardiacs and alexipharmacs. Simon Paulli relates, that he has often cured malignant fevers by the uſe of a decoction of them; which, he ſays, powerfully promotes ſweat and urine without greatly irritating nature, and at the ſame time raiſes the ſpirits, and abates thirſt.

At preſent, theſe flowers are valued chiefly for their fine flavour; which is readily extracted by infuſion in water, and diſſipated even by light coction. Three pounds of the freſh flowers clipt from the heels, communicate, by infuſion in a cloſe veſſel for a night, a grateful and moderately ſtrong ſmell, and a deep red colour, to five † and even to twelve ‡ pints of water: theſe

Syr. caryoph. rubr.
† *Ph. Lond.*
‡ *Ph. Ed.*

theſe liquors, with a proper quantity of fine ſugar, form very agreeable ſyrups. On diſtilling the freſh flowers with water, the diſtilled liquor proves conſiderably impregnated with their fragrance, but no eſſential oil ſeparates, though ſeveral pounds of the flowers be ſubmitted to the operation. The remaining decoction is of a deep red colour, and yields, upon being inſpiſſated, a dark purpliſh red extract, of little or no ſmell, and of a bitteriſh, auſtere, ſubſaline taſte.

Rectified ſpirit, digeſted on the flowers, receives a much paler tincture than watery liquors, but extracts the whole of their active matter. In diſtillation or evaporation, ſpirit elevates much leſs than water; the ſpirituous extract retaining a conſiderable ſhare of the fine ſmell of the flowers, as well as their taſte: its colour is purpliſh, like that of the watery extract.

CASCARILLA.

CASCARILLÆ CORTEX Pharm. Lond. & Edinb. Thus judæorum Park. Cortex thuris nonnullis dictus, vel thymiama, vel thus judæorum Raii hiſt. ELEUTHERIA OR CASCARILLA: the bark, probably of the ſhrub deſcribed and figured by Cateſby under the name of *ricinoides elæagni folio* or *ilathera, Croton Caſcarilla Linn.* which grows plentifully in moſt of the Bahama iſlands (a). From thoſe iſlands, particularly, as it is ſaid, from one of them called Elatheria, it is immediately brought to us; in curled pieces, or rolled up into ſhort quills, about an inch in width: covered on the outſide with a rough whitiſh matter, and browniſh on the inner ſide; exhibiting, when broken, a ſmooth, cloſe, blackiſh brown ſurface.

(a) Eſſay towards a natural hiſtory of Carolina, Florida, and the Bahama iſlands.

THIS bark, freed from the outer whitiſh coat which is inſipid and inodorous, has a light agreeable ſmell, and a moderately bitter taſte, accompanied with a conſiderable aromatic warmth. It is eaſily inflammable, and yields, whilſt burning, a very fragrant ſmell, ſomewhat reſembling that of muſk; a property which diſtinguiſhes the eleutheria from all other known barks *(a)*.

Stiſſer appears to have been the firſt who employed the cortex caſcarillæ or eleutheriæ as a medicine in Europe. He relates, that he received this aromatic bark from England; and that ſome time after, it was ſold at Brunſwick for Peruvian bark: that a tincture of it in alkalized vinous ſpirits, or in dulcified alkaline ſpirits, proved carminative and diuretic, and did conſiderable ſervice in arthritic and ſcorbutic caſes; and that if taken immediately after meals, it affected the head a little *(b)*.

(a) This property ſeems to confirm the above account; that eleutheria (not of the growth of the Eaſt Indies as ſome have ſuppoſed, nor of the Spaniſh Weſt Indies as others) is really the produce of the Bahama *ricinoides* of Cateſby; whoſe bark, he ſays, infuſed either in wine or water, gives a fine aromatic bitter, and being burnt yields a fine perfume. Thoſe, who imagine the eleutheria to be the bark of a Peruvian tree, ſeem to have been miſled by the name *caſcarilla*; which is applied by the Spaniards to the Peruvian bark ſtrictly ſo called, and ſignifies no more than bark in general. See Hoffman's *Diſſertatio de caſcarilla, anno* 1738. *Operum omnium ſupplement.* ii. *par.* i. *p.* 704.

(b) Acta laboratorii chymici, Specim. ii. *cap.* ix & x. *edit. ann.* 1693. & *de febribus intermittentibus conſult. nov. cap.* xvi.

Eleutheria was ſoon after employed by Apinus, in an epidemic fever of the intermittent kind, which raged in ſome parts of Norway in 1694 and 1695. This diſeaſe, which at firſt had the appearance of an ordinary intermittent, was at length accompanied with petechial ſpots. The common alexipharmacs and ſudorifics were found ineffectual: but the powder or extract of eleutheria, joined with them, proved ſucceſsful, even after petechiæ had appeared: dyſenteries, ſucceeding the fever, were removed by the ſame means. During the uſe of the eleutheria, the patient generally ſweated plentifully, without loſs of ſtrength or other inconvenience: the belly was at the ſame time kept open, and thoſe who did not ſweat had commonly three or four ſtools a day: where the menſtrual or hæmorrhoidal fluxes were ſuppreſſed at the beginning of the diſorder, they generally, upon the uſe of this medicine, re-appeared (a).

The gentlemen of the French academy found this bark of excellent ſervice againſt an epidemic dyſentery in the year 1719; in which, ipecacoanha proved ineffectual. Mr. Boulduc obſerves, that this laſt left a lowneſs of the ſpirits, and weakneſs of the ſtomach, which continued for a long time: whereas the eleutheria ſoon raiſed the ſtrength, and promoted appetite (b).

At preſent, eleutheria is in great eſteem among the Germans, as a warm ſtomachic and corroborant, in flatulent colics, internal hæmorrhagies, dyſenteries, the diarrhœæ of acute fevers, and in common intermittents; in which laſt it is often joined to the Peruvian bark, and by many preferred to it, as being leſs ſubject to ſome inconveniences, which the other, by its great aſtringency, is apt to produce. Among us, it has but lately been received into practice; and its uſe is not yet become ſo general as it well deſerves to be.

(a) *Hiſtorica relatio febris epidemicæ, edita anno* 1697.

(b) *Hiſtoire de l'acad. royale des ſciences, pour l'ann.* 1719.

Tinct. caſcarillæ *Ph. Lond.*

The virtues of eleutheria are partially extracted by water, and totally by rectified ſpirit: after the action of the former, it retains a conſiderable ſhare of its flavour, after the latter it proves inodorous and inſipid: the watery tinctures are of a reddiſh brown, the ſpirituous of a browniſh orange colour. An officinal tincture of caſcarilla is directed by the London college in the proportion of four ounces of the powdered bark, to a quart of proof ſpirit. Diſtilled with water, it yields a greeniſh eſſential oil, of a very pungent taſte, and of a fragrant penetrating ſmell, more grateful than that of the caſcarilla itſelf, in quantity, according to Hoffman's experiments, not exceeding one dram from ſixteen ounces: the decoction, inſpiſſated, leaves an extract of a moderate dull bitterneſs, much weaker than might have been expected from the ſtrong taſte of the bark in ſubſtance. On inſpiſſating the ſpirituous tincture, with a gentle heat, nothing conſiderable of the active matter of the caſcarilla was found to ariſe with the menſtruum: the remaining extract, nevertheleſs, was rather weaker in taſte than the bark itſelf, and when thoroughly exſiccated, ſcarcely diſcovered any taſte at all, being almoſt a pure reſin, not diſſoluble by the ſaliva. It is probably the dry pulverable extract that Cartheuſer means, when he ſays it has no taſte; and the extract in its moiſt ſtate that was examined by Boulduc, who ſays it is bitter, biting, and aromatic.

matic. The London college in their laſt pharmacopœia order an extract of caſcarilla, made like that of Peruvian bark with its reſin, by mixing the watery and ſpirituous extracts together.

Extr. caſcarillæ *Ph. Lond.*

CASIA CARYOPHYLLATA.

CASIA CARYOPHYLLATA Pharm. Pariſ. Cortex caryophylloides. Clove bark: the bark of a tree of the clove kind, *(caryophyllus aromaticus fructu rotundo, caryophyllon plinii C. B. Myrtus caryophyllata Linn.)* brought from the iſland Cuba, Jamaica, and other parts of the Weſt Indies; rolled up in quills; like cinnamon, but ſomewhat thinner, rougher on the outſide, and of a darker ruſty brown colour.

This bark is a warm aromatic, nearly of the ſame kind of ſmell and taſte with the clove ſpice, but weaker, and with a little admixture as it were of the cinnamon flavour. It agrees nearly with cloves alſo in regard to the ſolubility and volatility of its active principles. Tinctures of it in rectified ſpirit ſmell and taſte ſtrongly of the bark: the watery infuſions are conſiderably impregnated with its ſmell, but have very little of its taſte. On inſpiſſating the ſpirituous tincture, the ſpirit which diſtills has little or nothing of its flavour: the remaining extract ſmells lightly of the bark, and proves in taſte very hot and pungent, though much leſs ſo than the ſpirituous extract of cloves. In diſtillation with water, it yields a very ſmall portion of eſſential oil, nearly ſimilar in flavour to the oil of cloves, but more pungent than the genuine oil of that ſpice: the remaining decoction is ungratefully auſtere and bitteriſh.

A bark of the ſame kind is ſometimes brought from the Eaſt Indies under the name of *culitlawan*, or *culilawan*; a Malaccan compound word, of which the Latin *cortex caryophylloides* or clove bark is ſaid to be a tranſlation. That diſtinguiſhed in Europe by the name of *culilawan* is thicker than the other, and in colour approaches ſomewhat more to cinnamon, but ſcarcely differs in ſmell or taſte.

The ſame with this appears likewiſe to be the *carabaccium* of Baglivi; which he deſcribes as being in taſte like cloves, but very temperate and grateful, and in colour having a great reſemblance to cinnamon; and which, he ſays, he made uſe of, with great benefit in decoction, for correcting acrimony and ſcorbutic diſſolution of the lymph, and for ſtrengthening the ſtomach and promoting digeſtion (*a*).

Rumphius obſerves, that the outer and inner barks, and the barks of different parts of the tree, differ ſomewhat in colour and in taſte from one another; (whence, probably, ſuch differences as may have been obſerved in thoſe brought under different names into Europe); and that the bark of the root approaches both in appearance and in flavour to ſaſſafras, to which it was, in Batavia, frequently ſubſtituted.

CASSIA FISTULARIS.

CASSIA FISTULARIS Pharm. Lond. & Edinb. CASSIA FISTULA: a hard woody cylindrical pod, of a tree reſembling the walnut, (*caſſia fiſtula alexandrina C. B. & Linn.*) which grows ſpontaneouſly in Egypt and the warmer

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(*a*) Baglivi, *Experimenta circa ſalivam, Opp. p.* 426.

parts of the Eaſt Indies, and has been thence introduced into the Weſt. The pods or canes are about an inch in diameter, and a foot or more in length; externally, of a dark brown colour, ſomewhat wrinkled, with a large ſeam running the whole length upon one ſide, and another leſs viſible on the oppoſite one; internally, of a pale yellowiſh colour, divided by thin tranſverſe woody plates into a number of little cells, containing each a flattiſh oval ſeed with a ſoft black pulp.

The pulp of caſſia has a ſweetiſh taſte, followed by more or leſs of an ungrateful kind of acrimony. The caſſia of the Eaſt Indies has a more agreeable ſweetneſs, and leſs acrimony than that of the Weſt; and hence the former is univerſally preferred: they may be diſtinguiſhed from one another by the eye; the oriental canes being ſmaller, ſmoother, and thinner-rinded, and their pulp of a deeper ſhining black colour, than the occidental. The lighter canes of either ſort, and thoſe in which the ſeeds rattle on being ſhaken, are generally rejected: in theſe, indeed, the pulp has become dry, but it does not neceſſarily follow that it is damaged: it loſes nothing in drying but its aqueous humidity, and by this loſs it ſhould ſeem to be effectually ſecured from growing mouldy or ſour, inconveniences to which in its moiſt ſtate it is very ſubject.

The pulp of caſſia, whether moiſt or dry, diſſolves both in water and in rectified ſpirit; readily in the former, ſlowly and difficultly in the latter, and not totally in either: the part which remains undiſſolved appears to be of little or no activity. It is uſually extracted by boiling the bruiſed pods in water, and evaporating the ſtrained ſolution to a due conſiſtence: the exhaling vapour carries off nothing conſiderable of the caſſia. As it is very apt to grow ſour in keeping, only ſmall quantities ſhould be prepared at a time.

Caſſia, in doſes of a few drams, is a gentle laxative; of good uſe in coſtive habits, in inflammatory caſes where purgatives of the more acrid or irritating kind can have no place, and, as Geoffroy obſerves, in the painful tenſion of the belly which ſometimes follows the imprudent uſe of antimonials. It is rarely given in ſuch doſes as to have the full effect of a cathartic; the quantity neceſſary for this purpoſe, an ounce and a half or two ounces, being apt to nauſeate the ſtomach, and produce flatulencies and gripes, eſpecially if the caſſia is not of a very good kind: mild aromatics, and dilution with warm liquors, are the beſt correctives.

It is ſometimes acuated with the ſtronger purgatives, or with the antimonial emetics; of which laſt it is ſaid by ſome to diminiſh the activity ſo far, that four grains and a half of the tartarum emeticum may be taken, in a decoction of caſſia, by thoſe who can bear but one grain and a half of the antimonial preparation by itſelf *(a)*. It is often joined alſo as an auxiliary to the milder purgatives, as cryſtals of tartar, tamarinds, and manna; and of theſe, particularly of the latter, it is ſuppoſed to increaſe the cathartic virtue: a mixture of four drams of caſſia, and one and a half or two of manna, is ſaid, by Valliſneri, to purge as much as twelve drams of caſſia or thirty-two of manna by themſelves. * In the ſhops are kept electuaries of this kind, compoſed of ſix ounces each of

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(a) Malouin, *Chimie medicinale, part.* iii. *chap.* 38.

pulp of caſſia and ſyrup of pale roſes; and two ounces†, or one and a half‡ of manna; with one ounce†, or one and a half‡ of pulp of tamarinds. Elect. e Caſſia † Ph. Lond. ‡ Ph. Ed.

It is obſervable, that during the uſe of caſſia, the urine appears frequently of a green colour, and ſometimes, where the quantities taken are conſiderable, of a dark brown or blackiſh.

CASSIA LIGNEA.

CASSIA LIGNEA Pharm. Edinb. & Pariſ.
Cassia lignea: the bark of a tree of the cinnamon kind, *(cinnamomum ſeu canella malavarica & javenenſis C. B. Laurus Caſſia Linn.)* brought from the Eaſt Indies**(a)*; exactly reſembling cinnamon in appearance, but diſtinguiſhable by its breaking ſhort or ſmooth, while cinnamon breaks fibrous or ſhivery like wood.

This bark reſembles cinnamon in aromatic flavour as well as in external appearance; but differs in being weaker, or containing leſs active matter, and in its abounding with a viſcous mucilaginous ſubſtance. Chewed, it diſſolves as it were in the mouth into a kind of ſlime: powdered and boiled in water, it renders a conſiderable quantity of the fluid thick and glutinous, ſo as to concrete on cooling into the conſiſtence of a gelly.

Rectified ſpirit of wine, digeſted on the bark, diſſolves and extracts its aromatic matter; the powder retaining its mucilage, ſo as to form a gelly with water as at firſt. The aromatic part may be ſeparated alſo by diſtillation with water; in which proceſs, if a large quantity of caſſia is uſed, a ſmall portion of eſſential oil may be collected. * M. Beaumé procured two drams and a half of oil, from twelve pounds and a half of caſſia. The ſpicy principle of the caſſia, thus freed from the mucilage, in the form of ſpirituous tincture, or ſpirituous extract, or diſtilled water, or eſſential oil, appears the ſame with that of cinnamon; provided, in regard to the diſtilled fluids, that they have not received an empyreumatic taint in the operation, an inconvenience to which they are very ſubject on account of the mucilaginous matter ſwelling up and burning to the veſſel. * The Edinburgh college have now directed a ſimple water to be kept, ten pints of which are drawn from a pound and a half of caſſia lignea.

**(a)* Bergius in his *Mat. Med.* gives the *Laurus Malabatrum* as the tree producing the caſſia lignea brought from the Eaſt Indies, and the *Laurus Caſſia* as the Weſt India cinnamon or caſſia, which he ſays is ſtronger than the former.

Aq. Caſſiæ ligneæ *Ph. Ed.*

Caſſia lignea was employed by the ancients as a ſuccedaneum to cinnamon, of which it was reckoned equivalent to half its own quantity. At preſent, it is not unfrequently mixed with, or ſubſtituted to, that ſpice in the ſhops, but is ſcarcely ever made uſe of under its own name.

CASTOREUM.

CASTOREUM ruſſicum Pharm. Lond. Caſtoreum Ph. Edinb. CASTOR: the inguinal glands of the *caſtor* or beaver; a four-footed amphibious animal, frequent in ſeveral parts of Europe, and in North America. Theſe glands are of different ſhapes and ſizes, covered with a thick ſkin, including an unctuous liquid matter, which in keeping grows dry and hard: on cutting the dry cods, as they are called, they are found full of a brittle friable ſubſtance, of a browniſh red colour, interſperſed with fine membranes and fibres exquiſitely interwoven. The beſt caſtor comes from Ruſſia in large, round, hard cods; an inferiour ſort, ſmaller and moiſter, from Dantzick; the worſt of all from New England, in longiſh thin cods.

Russia caſtor has a ſtrong not agreeable ſmell, and a biting bitteriſh nauſeous taſte: the other ſorts are weaker than that of Ruſſia, yet more ungrateful. It is generally looked upon as one of the capital nervine, antiſpaſmodic and antihyſteric medicines: its virtues have undoubtedly been much exaggerated; but though they are not near ſo great as they have by moſt writers been repreſented, they appear nevertheleſs to be conſiderable. The common doſe is from two or three grains to a ſcruple; though it has been ſometimes taken by drams, and theſe doſes very often repeated (*a*).

Rectified ſpirit, proof ſpirit, and water, extract, by the aſſiſtance of heat, nearly all the active matter of caſtor: rectified ſpirit diſſolves moſt readily the finer and leſs ungrateful, and water the more nauſeous bitter part: proof ſpirit acts equally, but difficultly, on both. Of the two colleges, that of London directs proof ſpirit as the menſtruum, in the proportion of two pints to two ounces of the caſtor; that of Edinburgh, rectified ſpirit, with half as much more of the caſtor. On digeſting in the two ſpirits equal quantities of the powder, with equal degrees of heat, for ten or twelve hours, the tincture in proof ſpirit proved ſenſibly moſt ungrateful, and that in rectified ſpirit poſſeſſed moſt perfectly the ſpecific flavour of the caſtor:

Tinctura caſtorei *Ph. Lond. & Ed.*

(*a*) J. Marius, *Caſtorologia aucta ab J. Franco, p.* 74.

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an infuſion in boiling water was bitterer and more nauſeous than either. The caſtor remaining after the action of water, retained a little of its flavour, but nothing of its nauſeous bitterneſs: that left by rectified ſpirit retained a little of the latter, but nothing of the former.

In diſtillation, it gives over to water the whole of its ſmell and flavour: a quart of water, diſtilled from an ounce of Ruſſia caſtor, receives a conſiderably ſtrong impregnation, but gradually loſes greateſt part of it in being kept. It is ſaid, that on ſubmitting to this operation large quantities of the caſtor, a ſmall portion of eſſential oil is obtained, which ſmells exceeding ſtrongly, and diffuſes its ungrateful ſcent to a great diſtance *(a)*. This odorous and moſt active principle of the caſtor is carried off by water in a very gentle heat; infuſions or light decoctions, which are very nauſeous, yielding, however ſlowly inſpiſſated, a brittle extract, which has nothing of the ſpecific flavour of the drug, and proves in taſte but weakly though ungratefully bitteriſh. Rectified ſpirit on the other hand, diſtilled from the tincture made in that menſtruum, brings over ſcarcely any ſenſible impregnation; nearly all that it had extracted from the caſtor, remaining entire in the inſpiſſated maſs, which proves of an unctuous conſiſtence; not eaſily reducible to dryneſs.

Caſtor is commonly joined in preſcription with the deobſtruent fetid gums, volatile alkaline ſalts, the volatile oily ſpirits, and other materials of ſimilar intention. The volatile oily ſpirits are well adapted alſo as menſtrua for diſſolving the active matter both of the caſtor and of the fetid gums; at the ſame time that they

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(a) Cartheuſer, *Fundamenta m. m. ſect.* xii. *cap.* 48.

prove in many caſes excellent additions to their virtue, as particularly in ſome hyſteric diſorders, and the ſeveral ſymptoms which accompany them: in this view, an ounce of Ruſſia caſtor, and half as much aſafetida, are digeſted about ſix days, in a cloſe veſſel, with a pint of the volatile ſpirit. Tinct. caſtor. comp. *Ph. Ed.*

CASUMUNAR.

CASUMUNAR. Bingalle; Riſagon. CASMUNAR: the root of an Eaſt India plant, of which we have no certain account; brought over in irregular ſlices of various forms, ſome cut tranſverſely and others longitudinally: the cortical part is marked with circles, and of a duſky browniſh colour: the internal part is paler, and unequally yellow.

THIS root was introduced ſome time ago by Marloe, as a medicine of uncommon efficacy in hyſteric, epileptic, paralytic, and other nervous diſorders. At preſent it is ſometimes employed as a ſtomachic, but its uſe is not yet become ſo general as it ſeems to deſerve. It is an elegant mild aromatic, moderately warm, lightly bitteriſh, in ſmell ſomewhat reſembling ginger. Its virtues are extracted in perfection by rectified ſpirit, and, on drawing off the menſtruum from the filtered tincture, remain concentrated in the inſpiſſated maſs; which ſmells very agreeably, and impreſſes on the organs of taſte a grateful bitteriſhneſs, and a durable glowing warmth, not a fiery or pungent heat. Both the tincture and extract are of a deep ſaffron colour.

CEDRUS.

CEDRINUM LIGNUM Pharm. Pariſ. Cedrus conifera foliis laricis C. B. Pinus Cedrus Linn. CEDAR OF LIBANUS: a large ever-green coniferous tree, with very narrow ſtiff ſharp-pointed leaves ſtanding ſeveral together in tufts. It is a native of the bleak ſnowy mountains of Syria, and is not as yet become common in this kingdom.

THE cedar is one of the odorous reſiniferous trees; in its general medicinal qualities ſimilar to the fir, but in ſome reſpects different. The reſinous juice, extracted from inciſions made in the trunk, has a ſtronger and more agreeable kind of ſmell, and is much more diſpoſed to concrete into a ſolid brittle maſs, without loſing much of its valuable parts in the exſiccation. The wood, which is of a fine reddiſh colour and very light, is likewiſe more fragrant than the fir, and its odorous matter leſs volatile: a tincture of it in rectified ſpirit, which is reddiſh like the wood itſelf, being committed to diſtillation, the ſpirit brings over nothing of its virtue; all the active matter of the cedar remaining behind, concentrated into an elegant balſamic extract. Even boiling water does not eaſily carry off its flavour: the watery extract ſmells conſiderably of the wood, and is in taſte bitteriſh and ſaline. Marggraf relates, that on keeping the extract for ſome time, ſmall cryſtals ſhot upon the ſurface, which were found on trial to be common ſalt: and that on diſtilling the wood with water, it yielded about one ſixty-fourth its own weight of a thick, yellowiſh, eſſential oil, which grew thicker in a moderate degree of cold, and quite conſiſtent in a ſtrong one(*a*). In the ſaline nature of the watery extract, this wood differs from all the reſinous ones that have been examined; and in the thickneſs, and congelability of its eſſential oil, from all but the lignum aloes and yellow ſaunders.

CENTAURIUM.

CENTAURIUM MINUS Pharm. Lond. & Edinb. & C. B. Gentiana Centaurium Linn. LESSER CENTAURY: a ſmall plant, with three-ribbed, ſomewhat oval leaves, ſet in pairs on the ſtalks; which divide, towards the top, into ſeveral branches, bearing umbel-like cluſters of bright red, funnel-ſhaped flowers, cut into five acute ſegments, followed by little oblong capſules full of very ſmall ſeeds. It is annual, grows wild in dry paſture grounds, and flowers in July.

THE leaves and tops of centaury are ſtrong bitters, of ſcarcely any ſmell or particular flavour. The ſeeds alſo are very bitter; the petala of the flowers, and the roots, almoſt inſipid. The flowery tops are generally made choice of, and are of conſiderable eſtimation in the preſent practice as corroborant ſtomachic bitters.

The active parts of this plant are diſſolved readily both by water and rectified ſpirit, the herb, after infuſion in ſufficient quantities of either menſtruum, remaining inſipid: infuſions of the leaves in water are of a paler or deeper browniſh colour, according as they are leſs or

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(a) *Memoires de l'acad. des ſcienc. de Berlin, tom.* ix.

more ſaturated; to rectified ſpirit, the freſh leaves give a green, the dry a dark browniſh red tincture. All theſe liquors are ſufficiently elegant bitters.

Water takes up, along with the bitter, a large quantity of an inſipid mucilaginous ſubſtance, whereas rectified ſpirit ſeems to diſſolve little more than the pure bitter part. Hence, on inſpiſſating the two ſolutions to the ſame conſiſtences, the watery extract proves much leſs bitter than the ſpirituous, and its quantity above four times greater: according to Cartheuſer's experiments, an ounce of the herb yields with water above half an ounce of extract, but with ſpirit ſcarcely two ſcruples.

CENTAURIUM MAJUS.

CENTAURIUM MAJUS, ſive Rhaponticum vulgare officinarum, Pharm. Pariſ. Centaurium majus folio in plures lacinias diviſo C. B. Centaurea Centaureum Linn. GREAT CENTAURY: a large plant, with the leaves compoſed of oblong ſerrated ſegments ſet in pairs on a middle rib, which is edged, in the intermediate ſpaces, with a ſerrated margin: the ſtalk divides, towards the upper part, into ſeveral branches, bearing, on the tops, round ſoft ſcaly heads, from which come forth bluiſh floſculi, followed by down incloſing the ſeeds. It is perennial, a native of the ſouthern parts of Europe, and raiſed with us in gardens.

THE root of this plant, of a dark blackiſh colour on the outſide, is internally reddiſh, and yields, when freſh, a juice of a deep red. It has a ſlight ſmell, not diſagreeable; and in chewing diſcovers a viſcous ſweetiſhneſs and roughneſs, with ſome degree of acrimony. It is reckoned aperient and corroborant, and ſuppoſed to be particularly uſeful in alvine fluxes; in which intention it has by ſome been greatly recommended, though apparently much inferiour to the root whoſe place it was employed to ſupply, to wit, the true rhapontic. Among us it has long been diſcarded from practice, and is now dropt by the colleges both of London and Edinburgh.

CEPA.

CEPA vulgaris C. B. Allium Cepa Linn. Onion: a plant with a ſingle bulbous root compoſed of a number of coats; producing long fiſtular leaves, and a tall naked bellied ſtalk, bearing a large cluſter of hexapetalous white flowers, each of which is followed by a roundiſh capſule, containing a number of black angular ſeeds. It is cultivated in gardens for culinary uſes.

Onions are very acrid, ſtimulating, and of little nouriſhment. Taken freely in hot bilious diſpoſitions, they produce flatulencies, thirſt, head-achs, and febrile ſymptoms. In cold ſluggiſh phlegmatic temperaments, they are of ſervice; warming the habit, attenuating viſcid humours, and promoting the natural excretions, particularly expectoration and urine. They are likewiſe powerfully antiſeptic, and by virtue of this quality are recommended by ſome as a ſalubrious addition to the food in ſcorbutic caſes. Externally, they are employed in cataplaſms for ſuppurating hard tumours: ſome recommend them alſo to be rubbed on bald places for promoting the growth of hair. Frederic Hoffman reports, that ſuppreſſions of urine, in children, are ſpeedily relieved, by the application of roaſted onions to the region of the pubes.

The root, which is the moſt acrid part of the plant, loſes greatly in drying, both of its ſmell and taſte, together with near ſeven eighths of its weight. It gives out its virtue, by infuſion, both to water and to rectified ſpirit, but not readily, nor completely, to either. In diſtillation, the whole of its acrimony and peculiar flavour ariſe with water, and a very conſiderable part with ſpirit: the diſtilled water ſmells exceeding ſtrongly and offenſively of the onion, but no eſſential oil could be obtained on ſubmitting to the operation ſeveral pounds of the root. The watery decoction, inſpiſſated to the conſiſtence of an extract, is very mucilaginous, but of ſcarcely any particular taſte; and the taſte of the ſpirituous extract is very weak. The active matter of onions appears therefore to be of a much more volatile kind than that of garlic, with which, in other reſpects, it nearly agrees.

C E R A.

BEES WAX: a ſolid concrete, collected from vegetables by the bee; and extracted from the combs, after the honey is got out, by heating and preſſing them: lighter than water, heavier than proof ſpirit; ſoluble in rectified ſpirit, very ſparingly, and not without the aſſiſtance of heat, into a gelatinous liquid; not diſſoluble at all in watery liquors; melting, by a heat a little greater than that which the hand can ſupport, into the appearance of oil, and in this ſtate eaſily miſcible with oils and liquid fats; readily inflammable, and burning totally away; almoſt totally ariſing in diſtillation, partly in form of a thick empyreumatic oil, and partly in that of a conſiſtent butyraceous matter, which by repeated diſtillation becomes fluid and thin.

1. Cera flava *Pharm. Lond. & Edinb.* Yellow wax; in the ſtate wherein it is obtained from the combs. When new, it is of a lively yellow, ſomewhat tough, yet eaſy to break: by age, it loſes its fine colour, and becomes harder and more brittle.

2. Cera alba *Pharm. Lond. & Edinb.* White wax: the yellow wax artificially bleached, by reducing it into thin flakes, expoſing theſe for a length of time to the ſun and open air, and ſprinkling them occaſionally with water: when ſufficiently whitened, the wax is melted and caſt into cakes.

Yellow wax, when in perfection, has an agreeable ſmell, ſomewhat reſembling that of honey: by long keeping, and in the proceſs by which it is whitened, its ſmell is in good meaſure diſſipated. Diſtilled with water, by a boiling heat, it impregnates the liquor ſlightly with its ſcent, but gives no appearance of any eſſential oil; nor is the whole of its odorous matter to be eaſily ſeparated by this proceſs. Chewed, it proves tenacious, does not mingle with the ſaliva, or diſcover any particular taſte. The gelatinous ſolution, obtained by boiling it in ſpirit of wine, by mixture with a thick mucilage of gum-arabic, becomes ſoluble in water, ſo as to form therewith an emulſion or milky liquor: the wax itſelf is made in like manner ſoluble, without the intervention of ſpirit, by thoroughly mixing it with the gum in fine powder: when thus diſſolved, it proves ſtill inſipid, and perfectly void of acrimony.

The chief medicinal uſe of wax is in plaſters, unguents, and other like external applications; partly for giving the requiſite conſiſtence to other ingredients; and partly on account of its own emollient quality. The yellow ſort, diſſolved into an emulſion, or mixed with ſpermaceti, oil of almonds, conſerve of roſes, &c. into the form of an electuary; or divided, by ſtirring into it, when melted over a gentle fire, as much, as it will take up, of powdery matters, as the compound crabs-claw powder; is given alſo internally, and often with great ſucceſs, in diarrhœas and dyſenteries, for obtunding the acrimony of the humours, ſupplying the natural mucus of the inteſtines, and healing their excoriations or eroſions.

The empyreumatic oil, into which wax is reſolved by diſtillation with a ſtrong heat, is greatly recommended by Boerhaave and others, for healing chaps and roughneſs of the ſkin, for diſcuſſing chilblains, and, with the aſſiſtance of proper fomentations and exerciſe, againſt ſtiffneſs of the joints, and contractions of the tendons. It is, doubtleſs, highly emollient, but does not appear to have any other quality by which it can act in external applications: it has nothing of the acrimony or pungency, which prevail in all the other known diſtilled vegetable oils; though in ſmell it is not a little diſagreeable and empyreumatic, a circumſtance which occaſions it to be at preſent more rarely uſed than it has been heretofore. As the wax ſwells up greatly in the diſtillation, it is convenient to divide it, by melting it with twice its weight of ſand, or putting the ſand above it in the retort, that it may mingle with the wax when brought into fuſion. The oil, which is preceded by a ſmall quantity of acid liquor, congeals in the neck of the retort, from whence it may be melted down by applying a live coal, and made fluid by rediſtilling it two or three times without addition.

CETERACH.

ASPLENIUM ſive Ceterach Ph. Pariſ. Ceterach officinarum C. B. Scolopendria vera Tragi. Aſplenium Ceterach Linn. SPLEENWORT or MILTWASTE: a ſmall buſhy plant, growing in fiſſures of rocks and old walls; conſiſting of capillary blackiſh roots, and long narrow leaves, cut down to the rib, on each ſide, alternately, into a number of oblong obtuſe narrow ſections with broad baſes. It has no ſtalk or flower: the ſeeds are a yellow powder produced on the backs of the leaves.

THE leaves of ceterach have an herbaceous, mucilaginous, roughiſh taſte, and no conſiderable ſmell: with ſolution of chalybeate vitriol, they ſtrike a blackiſh colour. They ſtand recommended as a pectoral, ſimilar to maidenhair, to which they have been frequently joined in infuſions and apozems; and likewiſe as an aperient in obſtructions of the viſcera. Mr. Morand relates, that there has lately been diſcovered in them an excellent diuretic virtue; that they were uſed with great ſucceſs by count D'Auteuil, a Spaniſh naval commander, againſt the gravel, with which he was violently tormented; that they have ſince come greatly into uſe at Paris, Verdun, and Grenoble; that from the obſervations made there, they appear to gently carry off ſand, cleanſe the kidneys, and allay pains in the urinary paſſages; and that the way of uſing them is, to drink infuſions of them in the morning as tea, with the addition of ſuch other medicines as particular caſes may require.

CEVADILLA.

CEVADILLA hiſpanorum Ph. Pariſ. (i. e. hordeolum). Sebadilla. Sabadilla. Hordeum cauſticum C. B. INDIAN CAUSTIC BARLEY: the ſeed-veſſel of a Mexican plant, reſembling in its form and ſtructure a barley ear, but with ſmaller ſeeds, not above the ſize of linſeed.

THESE ſeeds appear, from the accounts given of them by ſome authors, to be the ſtrongeſt of the vegetable cauſtics. Monardes reports, that in putrid verminous ulcers, and gangrenes, they have the ſame effects as corroſive ſublimate, or the actual cautery; and that the way of uſing them is, to ſprinkle a little of the powdered ſeed upon the part, or, for the greater ſafety, to dilute it with watery liquors, and apply lint dipt in the mixture *(a)*. In Linnæus's *amænitates academicæ* they are ſaid to be the moſt effectual of all medicines for deſtroying cutaneous inſects in children. In France, they are ranked among the officinals: in this country they are very rarely to be met with.

CHÆREFOLIUM.

CHÆREFOLIUM ſativum C. B. Gingidium. Scandix Chærefolium Linn. CHERVIL: an umbelliferous plant, with winged leaves ſomewhat like thoſe of parſley, producing

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(a) Ray, *Hiſtoria plantarum, tom.* ii. *p.* 1246.

ſmooth longiſh ſeeds ſhaped like a bird's beak. It is a native of the ſouthern parts of Europe, and ſown annually with us in gardens.

Chervil is a ſalubrious culinary herb; ſufficiently grateful both to the palate and ſtomach; ſlightly aromatic; gently aperient and diuretic. The expreſſed juice is recommended by Riverius and others in dropſies; and Geoffroy relates, that he has found it, from experience, of remarkable ſervice in this diſeaſe, that it acts mildly and without irritation, and abates inflammatory ſymptoms. He directs three or four ounces of the depurated juice, with ſeven or eight grains of nitre, and half an ounce of a ſyrup of the five opening roots, to be taken daily every four hours; though he intimates alſo that the chervil juice has ſucceeded without any aſſiſtance. He obſerves that it is to be uſed with caution where the patient is troubled with a cough or a ſpitting of blood, as being liable to aggravate theſe complaints, in conſequence of a nitrous ſalt by virtue of which he ſuppoſes this juice to act.

The depurated juice, inſpiſſated to the conſiſtence of an extract, is manifeſtly ſaline to the taſte, but not entirely of the nitrous kind: it is more pungent than nitre, and did not viſibly deflagrate in the fire. Of the aromatic flavour of chervil, little or nothing accompanies the juice; though water, as well as ſpirit, extracts greateſt part of it by infuſion. The aromatic matter of this herb is of a very volatile kind, being ſoon diſſipated in drying or boiling: in diſtillation with water, there ſeparates from the aqueous fluid a ſmall portion of eſſential oil, reſembling in taſte, as Hoffman obſerves, the eſſential oil of fennel ſeeds.

CHAMÆDRYS.

CHAMÆDRYS minor repens C. B. Chamædrys vulgo vera exiſtimata J. B. Teucrium Chamædrys Linn. GERMANDER: a low creeping ſhrubby plant; with ſquare ſtalks; ſmall ſtiff oval leaves, notched from about the middle to the extremity, like thoſe of the oak tree, ſet in pairs at the joints; and purpliſh labïated flowers, ſet thick together, wanting the upper lip. It grows wild in ſome of the woods of France, Germany, and Switzerland: with us it is raiſed in gardens, and flowers in June and July.

THE leaves and tops of germander have a moderately bitter taſte, accompanied with a weak aromatic flavour, which is diminiſhed a little in drying, but not totally diſſipated in keeping for ſeveral months. They ſtand recommended as mild aperients and corroborants, in uterine and other obſtructions, intermitting fevers, and in the rheumatiſm and gout. They make a principal ingredient in the alterative antiarthritic compoſitions preſcribed by the ancients; whoſe uſe has lately been revived, with little variation; and which are ſaid, when long perſiſted in, by ſtrengthening the habit, rendering the blood more fluid, and promoting perſpiration, to prevent returns of the gouty paroxyſms. In ſome arthritic caſes, theſe and other warm bitter medicines have been of conſiderable ſervice: in others, they have been continued for years without any apparent benefit: in others, particularly in hot diſpoſitions, in perſons of an advanced age, and who had long ſuffered the diſeaſe, the abatement they procured of the gouty paroxyſms has been followed by ſymptoms more alarming.

The tops of the plant, gathered when the ſeeds are formed, are generally preferred to the leaves. Their doſe, in ſubſtance, dried and powdered, is from half a dram to a dram or more. They give out their virtues both to watery and ſpirituous menſtrua; and tinge the former of a yellowiſh colour inclining more or leſs to brown, according to the degree of ſaturation; the latter of a deep green. Water ſeems to diſſolve the bitter matter more perfectly than pure ſpirit; the watery extract being ſtronger in taſte than the ſpirituous, though the quantity of both extracts, according to Cartheuſer's experiments, is very nearly alike.

CHAMÆMELUM.

CAMOMILE: a plant with finely divided leaves; and moderately large flowers, ſtanding ſolitary on the tops of the ſtalks, upon long naked pedicles: the flower is compoſed of a number of white petala, ſet round a yellow convex diſk.

1. Chamæmelum *Pharm. Lond. & Edinb. Chamæmelum nobile ſeu leucanthemum odoratius C. B. Anthemis nobilis Linn. Chamomilla.* Trailing perennial camomile, called Roman. It is found wild in moiſt paſture grounds in ſeveral parts of England, but commonly cultivated in gardens, and flowers in June and July.

The leaves and flowers of this plant have a ſtrong, not ungrateful ſmell; and a very bitter nauſeous taſte. The flowers are ſomewhat bitterer, and conſiderably more aromatic than the leaves; and the yellow diſk of the flower is, in both reſpects, far ſtronger than the white petala. The ſmell, as well as the taſte, is rather improved than weakened by careful drying, and does not ſoon ſuffer any conſiderable diminution in keeping.

This plant, beſides its general virtues as a bitter, has been ſuppoſed to have ſome degree of a carminative, anodyne, and antiſpaſmodic power, depending on its odorous matter. It is recommended in colics of different kinds, particularly ſuch as ariſe from flatulencies or cold; in hyſterical and hypochondriacal diſorders, and nephritic pains; in the pains of childbed women, and deficiencies of the uterine purgations; and intermitting fevers, where a viſcidity of the humours, or obſtructions of the viſcera, render the Peruvian bark ineffectual or prejudicial. In this laſt intention, the camomile is generally aſſiſted by fixt alkaline ſalts, ſal ammoniac, or other aperients, and often, alſo, by corroborating materials: Baglivi's preparation of camomile, which he looks upon as the moſt certain ſpecific in obſtinate intermittents (*a*), was probably rather a compoſition of this kind, than any particular preparation of the camomile alone. The doſe of the dry flowers, in ſubſtance, is from ten or twelve grains to half a dram or more; in decoction or infuſion, two drams.

Camomile flowers give out their virtues both to water and rectified ſpirit; infuſions made in the former are of a yellowiſh brown colour, in the latter of a bright gold yellow: when the flowers have been dried ſo as to be pulverable,

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(*a*) *De fibra motrice & morboſa*, *cap*. xiii. *Oper. p*. 389.

the infuſions prove more grateful than when they are freſh or but moderately dried. Diſtilled with water, they impregnate the aqueous fluid pretty ſtrongly with their flavour: if the quantity of camomile, ſubmitted to the operation, is large, a little eſſential oil ſeparates and riſes to the ſurface of the water, in colour yellow with a caſt of greeniſh or brown, of a pungent taſte, and a ſtrong ſmell exactly reſembling that of the camomile. Decoctions of the flowers, inſpiſſated, though with a very gentle heat, to the conſiſtence of honey, loſe almoſt all the peculiar flavour of the plant, retaining its bitterneſs entire: the extract diſcovered to the taſte a ſlight ſaline kind of auſterity joined to the bitter; and on keeping for ſome months, threw off to the ſurface a number of minute ſaline cryſtals.

Extr. chamæmeli *Ph. Lond.*

Rectified ſpirit, drawn off from the ſpirituous tincture, brings over likewiſe a part of the flavour of the camomile, but leaves a conſiderable part behind in the extract. The ſmell is in great meaſure covered or ſuppreſſed by the ſpirit, in all the ſpirituous preparations; but the taſte, both in the ſpirituous tincture and extract, is conſiderably ſtronger than in the watery.

The leaves and flowers are frequently employed externally, in diſcutient and antiſeptic fomentations, and in emollient and carminative glyſters. They appear, from Dr. Pringle's experiments, to ſtand very high in the ſcale of antiſeptics; the ſoluble part of the flowers reſiſting the putrefaction of animal fleſh, with a power at leaſt one hundred and twenty times greater than ſea ſalt. Some endeavour to impregnate oil olive with the active matter of the camomile, for external uſes, by gently boiling the freſh herb and flowers bruiſed, in thrice their quantity of the oil, till they become criſp: and then ſtraining and preſſing out the fluid. A preparation of this kind might be obtained to better purpoſe, by a proceſs ſimilar to that, whereby expreſſed oils are perfumed with the fragrance of the more odoriferous flowers (ſee Ben); or by infuſing the flowers in the oil without heat; for the ſtrong heat, neceſſary for making the fluid boil, impreſſes a diſagreeable taint, and diſſipates greateſt part of the volatile matter of the camomile.

2. Chamæmelum flore pleno: *Chamæmelum nobile flore multiplici C. B.* Double camomile: a variety of the foregoing, produced by culture; differing in the flowers being double, or having ſeveral rows of the white petala, and the diſk proportionably ſmaller.

The ſingle and double flowered camomiles have been often uſed indiſcriminately, and are allowed to be ſo uſed by the faculty of Paris. The leaves of the two plants are indeed alike, in quality as well as in their external form: but with regard to the flowers, as their active matter is almoſt wholly confined to the yellow diſk, and as the ſingle have large diſks, but the double very ſmall ones, and when very double, ſcarcely any at all; it is plain that the latter cannot be equivalent to the former unleſs taken in much greater quantity; and that therefore the ſingle or large-diſked flowers alone ought to be employed for medicinal uſes.

3. Chamæmelum vulgare, *Anthemis. Chamæmelum vulgare leucanthemum dioſcoridis C. B. Matricaria Chamomilla Linn.* Common camomile; upright, annual, growing wild in corn fields.

This ſpecies alſo is allowed by the faculty of Paris to be uſed indifferently with the Roman camomile. Both its leaves and flowers are much weaker than thoſe of the Roman, and their ſmell of a leſs agreeable kind: ſometimes they have ſcarce any ſmell at all. They yield in diſtillation conſiderably leſs oil: from eight pounds of the flowers of the Roman were obtained about five drams, or a very little more; from the ſame quantity of thoſe of the common, ſcarcely three drams. The oils of the two plants are in ſmell and taſte nearly alike, but in colour remarkably different, that of the common being of a beautiful deep blue: if the oil is carefully kept, it retains its fine colour for many years; but if the air is admitted to it, the blue degenerates in a ſhort time to a yellow, like that which the oil of the other ſort has on its firſt diſtillation.

4. Cotula foetida *Chamæmelum fœtidum C. B. Anthemis Cotula Linn.* Mayweed or ſtinking camomile: annual, more upright than the other camomiles, with finer leaves, the flowers thicker together and their diſks more convex and protuberant. It grows in waſte grounds, and among corn.

This ſpecies differs greatly in quality from the three preceding. Its ſmell is diſagreeable: the flowers have little or no taſte; the leaves a ſtrong one, of the acrid bitteriſh kind. It has never been much in uſe, nor are its medicinal effects well known. Decoctions of it are ſaid to have been ſometimes employed as a bath or fomentation, againſt hyſteric ſuffocations, and hæmorrhoidal pains and ſwellings. Mr. Ray ſays, that a decoction of the herb has by ſome been given internally, with ſucceſs, in ſcrophulous caſes. Brown Langriſh gives an account of a decoction of it throwing a perſon affected with rheumatiſm into a profuſe ſweat, and curing him.

CHAMÆPITYS.

CHAMÆPITYS lutea vulgaris ſive folio trifido C. B. Abiga & ajuga quibuſdam. Teucrium Chamæpitys Linn. GROUNDPINE: a low, hairy, creeping plant, with ſquare ſtalks; whitiſh clammy leaves, cut deeply into three long narrow ſegments like thoſe of the pine tree, ſet in pairs at the joints; and yellow labiated flowers, without pedicles, and wanting the upper lip. It is annual, grows wild in ſandy and chalky grounds in ſome parts of England, and flowers in July.

THE leaves of groundpine are moderately bitter, and of a reſinous, not diſagreeable ſmell; approaching in this reſpect, as in their external form, to thoſe of the pine tree. They are recommended as aperients, and corroborants of the nervous ſyſtem; and ſaid to be particularly ſerviceable in female obſtructions, paralytic diſorders, and when continued for a length of time, either by themſelves or with the aſſiſtance of germander, in rheumatic, iſchiadic, and gouty pains.

The leaves in ſubſtance, dried and powdered, are directed to be given from half a dram to a dram. Their virtues are extracted both by water and ſpirit, moſt perfectly by the latter: the aqueous tinctures are yellowiſh, the ſpirituous green. In diſtillation, they weakly impregnate water with their reſinous ſcent: on diſtilling large quantities of the herb, a little eſſential oil may be collected, in quality ſomewhat approaching to that of turpentine. The watery extract has, joined to its bitterneſs, a weak ſaline auſterity; the ſpirituous, a ſlight ſweetiſhneſs and warmth.

CHEIRI.

LEUCOIUM LUTEUM vulgare C. B. Viola lutea Gerard. Cheiranthus Chieri Linn. WALL FLOWER: a plant with woody brittle ſtalks and branches; ſmooth, dark green, oblong, narrow, ſharp-pointed leaves; and numerous, tetrapetalous, yellow flowers, opening ſucceſſively, on the tops, followed by long ſlender pods containing reddiſh flat ſeeds. It grows wild upon old walls and among rubbiſh, and flowers in April and May.

THE flowers of cheiri have a moderately ſtrong pleaſant ſmell, and a nauſeous, bitteriſh, ſomewhat pungent taſte; which ſeem to afford ſome foundation for the nervine and deobſtruent virtues commonly aſcribed to them. They give out their active matter, together with a deep yellow tincture, both to water and ſpirit; and impregnate water, in diſtillation, with their odoriferous principle ſeparated from the other parts; but no oil is obtained, at leaſt when only moderate quantities, as a pound or two of the flowers, are ſubmitted to the operation at once. The decoction, after the diſſipation of the aromatic matter, diſcovers, beſides the ſtrong taſte manifeſt in the flowers themſelves, a ſenſibly ſaline one.

CHELIDONIUM MAJUS.

CHELIDONIUM MAJUS vulgare C. B. & Linn. CELANDINE: a plant with longiſh leaves divided to the rib into roundiſh indented portions, of which thoſe at the extremities are much larger than the others, of a bright green colour on the upper ſide, bluiſh green underneath, full of a gold coloured juice, as are likewiſe the ſtalks: from the boſoms of the leaves iſſue long pedicles, bearing cluſters of tetrapetalous yellow flowers, which are followed by browniſh pods containing flattiſh ſhining black ſeeds: the root is pretty thick at top, with a number of fibres at bottom, externally browniſh, internally of a deep yellowiſh red or ſaffron colour. It is perennial, grows wild in hedges and ſhady waſte places, and flowers in May and June.

THE leaves and roots of celandine have a faint unpleaſant ſmell, and a bitteriſh, very acrid, and very durable taſte, which is conſiderably ſtronger in the roots than in the leaves. Both water and rectified ſpirit extract nearly the whole of their pungent matter; the leaves, notwithſtanding the yellow juice which iſſues ſo plentifully from a ſlight wound, and in which their activity appears to reſide, give to rectified ſpirit a green tincture: the roots, which yield a copious ſaffron red juice, tinge the ſame menſtruum of a browniſh yellow. The pungency of this plant is not of the volatile kind, little or nothing of it riſing in diſtillation, with water, any more than with ſpirit: it is nevertheleſs greatly abated by drying the plant itſelf, or by inſpiſſating, with a gentle heat, the ſpirituous or watery infuſions. The ſmell of the herb is wholly diſſipated in drying.

This acrid plant ſtands recommended as a powerful aperient and attenuant, in obſtinate jaundices when not accompanied with inflammatory ſymptoms, in cachexies, chloroſes, dropſies, and other diſeaſes. Half a dram or a dram of the dry root in powder; or an infuſion, in wine or water, of a dram or a dram and a half of the freſh root; or three or four drops of its ſaffron-coloured juice, in any convenient vehicle; are directed for a doſe. Great caution is requiſite in the internal uſe of a medicine ſo acrimonious and irritating; more particularly in acute diſtempers, in which infuſions of it, made in vinegar, have by ſome been recommended as a ſudorific. Among us, it is employed chiefly by the common people for ſome external purpoſes; as the deſtroying of warts, cleanſing foul ſores, removing ſome cutaneous defedations, and clouds and beginning ſuffuſions of the eyes: for this laſt intention, the juice is diluted largely with milk, being of itſelf much too ſharp to be applied with ſafety to ſo tender an organ.

CHELIDONIUM MINUS.

CHELIDONIA rotundifolia minor C. B. Ranunculus Ficaria Linn. Pilewort: a ſmall plant, with roundiſh, ſmooth, ſhining green leaves, ſet on long pedicles; and ſlender procumbent ſtalks, bearing bright gold-coloured ſolitary flowers, of eight or nine petala, which ſtand in three-leaved cups, and are followed by cluſters of naked ſeeds: the root conſiſts of ſlender fibres, with a number of tubercles or little knobs among them. It is perennial, grows wild in hedges and moiſt meadows, and flowers in April.

The leaves of pilewort are ranked among the antiſcorbutics, but do not promiſe to be of much virtue: they have no ſmell, and only an herbaceous taſte, which, on chewing conſiderable quantities of them for ſome time, is followed by a very ſlight pungency. The roots are celebrated as a ſpecific againſt the piles: they have been ſometimes given inwardly, but chiefly applied externally, in the form of a cataplaſm, lotion, or unguent. Boerhaave relates, that he cured an atrabiliary perſon who was troubled with the piles, by uſing daily a decoction of two ounces of this root, after ſundry other medicines had been tried in vain. Perhaps the pilewort root acts, in theſe caſes, little otherwiſe than as a ſimple emollient: it has a ſoft ſweetiſh taſte, and yields with water a large proportion of a mucilaginous extract.

CHINA.

CHINA ROOT: an oblong thick jointed root, full of irregular knobs, of a reddiſh brown colour on the outſide, and a pale reddiſh within. Two ſorts are common in the ſhops, an oriental and occidental: the firſt, which is accounted the beſt, is conſiderably paler coloured and harder than the other. Of either kind, ſuch ſhould be choſen as is freſh and heavy, and which, when cut, exhibits a cloſe, ſmooth, gloſſy ſurface.

The plant is a climber, with tendrils like thoſe of the vine, producing cluſters of ſmall flowers, which are followed by pretty large berries. The oriental ſpecies (*Smilax China Linn.*)

has roundiſh prickly ſtalks and red berries, and is a native of China and Japan: the occidental (*Smilax Pſeudo-China Linn.*) has rounder ſmooth ſtalks and black berries, grows wild in Jamaica and Virginia, and bears the colds of our own climate.

THESE roots have ſcarce any ſmell or particular taſte: when freſh, they are ſaid to be ſomewhat acrid, but as brought to us they diſcover, even when long chewed, no other than a ſlight unctuoſity in the mouth. Boiled in water, they impart a reddiſh colour, and a kind of vapid ſoftneſs: the decoction, inſpiſſated, yields an unctuous, farinaceous, almoſt inſipid maſs, amounting to upwards of half the weight of the root. They give a gold yellow tincture to rectified ſpirit, but make no ſenſible alteration in its taſte: on drawing off the ſpirit from the filtered liquor, there remains an orange-coloured extract, nearly as inſipid as that obtained by water, but ſcarcely in half its quantity.

China root is generally ſuppoſed to promote perſpiration and urine, and by its ſoft unctuous quality, to obtund acrimonious humours. It was firſt introduced into Europe about the year 1535, with the character of a ſpecific againſt venereal diſorders: the patient was kept warm, a weak decoction of china root uſed for common drink, and a ſtronger decoction taken twice a day in bed to promote a ſweat. Such a regimen is doubtleſs a good auxiliary to mercurial alteratives: but whatever may be its effects in the warmer climates, it is found in this to be, of itſelf, greatly inſufficient. At preſent, the china root is very rarely made uſe of, having for ſome time given place to ſarſaparilla, which is ſuppoſed to be more effectual. Proſper Alpinus

pinus informs us, that this root is in great eſteem among the Egyptian women for procuring fatneſs and plumpneſs.

CICHOREUM.

CICHOREUM ſilveſtre ſive officinarum C. B. Cichorium Intybus Linn. WILD CICHORY: a plant with oblong, dark green, ſomewhat hairy leaves, deeply jagged, like thoſe of dandelion, but larger; in the boſoms of which, towards the tops of the branches, the flowers come forth in ſpikes, conſiſting, each, of a number of blue flat floſculi, ſet in a ſcaly cup, which afterwards becomes a covering to ſeveral ſhort angular ſeeds: the root is long and ſlender, of a brown colour on the outſide, and white within. It is biennial, grows in hedges and by road ſides, and flowers in June and July.

WILD cichory abounds with a milky juice, of a penetrating bitteriſh taſte, and of no remarkable ſmell or particular flavour: the roots are bitterer than the leaves or ſtalks, and theſe much more ſo than the flowers. By culture in gardens it loſes its green colour, and in great meaſure its bitterneſs, and in this ſtate is a common ſallad herb. The darker coloured, and the more deeply jagged the leaves are, the bitterer is the taſte of all the parts of the plant.

The roots and leaves of wild cichory are very uſeful aperients, acting mildly and without irritation, tending rather to abate than to increaſe heat, and which may therefore be given with ſafety in hectic and inflammatory caſes. Taken freely, they keep the belly open, or procure a gentle diarrhœa; and when thus continued for ſome time, they have often proved ſalutary in beginning obſtructions of the viſcera, in jaundices, cachexies, hypochondriacal and other chronical diſorders. Geoffroy relates, that he has known inveterate and ſtubborn intermittents cured by the daily uſe of wild cichory leaves, after many febrifuges had been tried in vain.

The virtues of the cichory reſide in the milky juice; and may be extracted by expreſſion, or by infuſing or boiling the herb or root in water or in ſpirit. The plant ſeems to loſe nothing of its taſte in drying; or the juice or infuſions in being gently inſpiſſated to the conſiſtence of an extract; though the plant in its recent ſtate, or the liquors uninſpiſſated, are ſuppoſed to be of moſt efficacy. The watery extract is ſomewhat larger in quantity than the ſpirituous, and this laſt is proportionably ſtrongeſt in taſte.

CICUTA.

CICUTA Pharm. Lond. & Edinb. Cicuta major C. B. Conium maculatum Linn. HEMLOCK: a tall umbelliferous plant, with large leaves, of a blackiſh green colour on the upper ſide, and a whitiſh green underneath, divided into a number of ſmall oblong ſomewhat oval ſegments, which ſtand in pairs on middle ribs: theſe ſegments are again deeply cut, but not quite divided, on both ſides; and many of theſe ultimate ſections have one or two ſlighter indentations. The ſtalk is round, ſmooth, hollow, irregularly variegated with ſpots and ſtreaks of a red or blackiſh purple colour. The flowers are white; the ſeeds greeniſh, flat on one ſide, very convex and marked with five furrows on the other. The root is oblong, about the ſize of a middling parſnep, yellowiſh without, white an fungous within. The plant is annual or biennial; common about the ſides of fields, under hedges, and in moiſt ſhady grounds; and flowers in June and July.

The leaves of hemlock have a rank ſmell: the organs of taſte, they affect but little. On expreſſion, they give out their ſmell to the juice; which, on being directly inſpiſſated with a gentle heat, to the conſiſtence of an extract, retains great part of the ſcent, and diſcovers an unpleaſant ſubacrid taſte ſeemingly of the ſubſaline kind. If the juice be ſuffered to ſettle till it becomes clear, it loſes nearly all the ſpecific flavour of the hemlock, the odorous principle ſeeming to ſeparate and ſubſide along with the herbaceous feculencies: the proper menſtruum of this matter is rectified ſpirit of wine; which completely extracts the ſmell, both of the leaves in ſubſtance and of the inſpiſſated juice, and receives, from both, a green tincture. The ſaturated tincture, mixed with water, grows turbid, and depoſites a green reſin.

This herb is recommended externally, in cataplaſms, fomentations, and plaſters, as a powerful reſolvent and diſcutient. Taken internally, in no great quantity, it has occaſioned diſorders of the ſenſes, ſleep, convulſions, and in ſome inſtances death; and hence it is ranked among the poiſonous plants: Boerhaave tells us, that by the effluvia of the herb bruiſed and ſtrongly ſmelt to, he became vertiginous (a). It is ſaid, that to certain brute animals, it is innocent(*a*); and that its ill qualities are corrected by vinegar or other vegetable acids(*b*). Of its effects in ſmall doſes, inſufficient to do harm, in which it has been by ſome recommended, nothing material was known, till the happy experiments of Dr. Stœrck, lately publiſhed(*c*), gave room to hope, not only that the virtues aſcribed to it in external applications are better founded than practitioners in general ſeem now to ſuppoſe, but likewiſe that it is a plant of very great importance as an internal medicine.

(a) *Hiſtoria plantar. Lugd. Bat. p.* 94. Haller, *Stirpes helveticæ, p.* 434.

Dr. Stœrck relates, that bags of the dry leaves, quilted together, boiled for a few minutes in water, (or in milk, where they could not otherwiſe be borne, on account of their ſmell and the itching they produced) then ſqueezed from the ſuperfluous liquid, and applied warm, checked the progreſs of very bad

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(*a*) Quippe videre licet, pingueſcere ſæpe cicuta
Barbigeras pecudes, homini quæ eſt acre venenum.
Lucretius.

(*b*) Cicuta, præſens illud venenum, ſi coquitur in aceto, ſine noxa comedi poteſt, quod probavi aliquoties, experimenti ergo, Lugduni Batavorum, ubi in foſſis extra urbem frequens creſcit, *Lindeſtolpe, de venenis, edit. Stentzel. p.* 431. —Cicutæ caules, aceto macerati, impune comeduntur, & ipſe edi. *Id. p.* 781.

A large ſpoonful of hemlock juice given to a cat, had no ſenſible effect: a ſecond produced a viſible *embarras* on the region of the reins: in a little time the animal ſtaggered, but did not fall: on ſwallowing a third ſpoonful, ſhe ran away, and was preſently out of ſight. A quarter of an hour after, ſhe was found, ſtretched out, motionleſs, her paws rigid. Half a dram of theriaca, diluted with two large ſpoonfuls of wine, had no good effect. A large ſpoonful of freſh lemon juice was ſcarce ſwallowed, when the animal got up on her legs, appeared free from pain, as if nothing had happened—continues in perfect health. *Mr.* Haram, *apothecary* at *Chartres. Rozier Tableau, tom.* i. 1773.

(*c*) *Libellus quo demonſtratur cicutam, &c. Vindobonæ,* 1760.

gangrenes, and procured a ſeparation of the corrupted parts: that the ſame application, in a perſon of ſixty who had been gouty for ſeveral years, immediately abated the pains, ſoftened and diſcuſſed the tophaceous concretions, and occaſioned the next fit to be milder and of ſhorter continuance: that its effects were likewiſe conſiderable in œdematous tumours, ſcirrhous ſtrumæ, indurations of the glands of the breaſt, and in very bad cancers: that nevertheleſs ſome received from it no benefit, though no one harm: that in inflammations or hot ſerous tumours, it was leſs proper than in the above caſes, or had place only after evacuations: and that plaſters, containing the juice of the hemlock, often reſolve and diſcuſs what reſiſts all other applications. It is in the form of plaſter that this herb, among us, has been chiefly made uſe of: the recent juice is mixed with a ſolution of twice its quantity of gum ammoniacum made in vinegar of ſquills, and the mixture boiled down to a due conſiſtence.

For internal purpoſes, he directs the juice, while freſh, without ſuffering it to ſettle, to be inſpiſſated in an earthen veſſel over a very gentle fire, and kept continually ſtirring to prevent its burning, till it acquires the conſiſtence of a thick extract; which is to be mixed with ſo much of the powdered leaves, as will reduce it into a maſs fit for being formed into pills. This preparation, he ſays, was given to a little dog, in the quantity of a ſcruple; taken by himſelf, in doſes of one and two grains, every morning and evening, for ſeveral days; continued by perſons in health, for a year or two; increaſed, in ſome caſes, to a dram and a half in a day; without producing any ill conſequence, or affecting any of the actions, ſecretions, or excretions of the body. It nevertheleſs had very powerful and ſalutary effects in ſome reputed incurable diſeaſes; acting, though ſlowly and inſenſibly, as a high reſolvent: he relates hiſtories of inveterate ſchirruſes, cancers, and the worſt kinds of ulcers and fiſtulæ, being completely cured by it; and ſays it reſolves alſo recent cataracts, or at leaſt reſtrains their progreſs. He begins always with ſmall doſes; giving one pill, of two grains, firſt twice a day, then thrice a day, and gradually increaſing the number to ſix or more for a doſe. The good effects of the medicine were ſometimes viſible in a few days; though the cure generally required ſeveral months.

The trials of this medicine, made among us, have not, as yet, ſo far as I can learn, been accompanied with ſo much ſucceſs. I have been informed of ſome caſes, in which it was apparently of great benefit; of ſome, in which it did no ſervice; and, of ſome, in which it affected the ſpeech and hearing. It has been ſuſpected that the general inefficacy of the medicine in this country was owing either to our hemlock being different in quality from the German, or to the extract being leſs ſkilfully prepared; but ſome of the extract has been procured from Dr. Stœrck himſelf, and found to ſucceed no better than our own: though the medicine has ſeldom been accompanied with very happy effects, it had activity enough to be productive of alarming ſymptoms.

In the third volume of the medical obſervations and inquiries publiſhed by a ſociety of phyſicians in London, Dr. Fothergill and Dr. Rutty have given two papers on this medicine, drawn from extenſive practice in England and Ireland; from which we have grounds to perſuade ourſelves, that though the cicuta is far from anſwering the expectations which Dr. Stœrck had raiſed, it may nevertheleſs be an uſeful acquiſition, and may aſſiſt in curing ſome diſorders, and alleviating others, in which the common medicines are inadequate auxiliaries. In real cancers, whether ulcerated or occult, there is no inſtance of its effecting a complete cure; but it was found to retard the progreſs of the deplorable diſeaſe, to mitigate the pain for a time, and to change the thin, ichorous, fetid diſcharge to a ſtate more approaching that of laudable pus. In different kinds of malignant ulcers, it in like manner mended the diſcharge, and diſpoſed the ulcer to heal. Some ſcrophulous tumours were completely reſolved by it, and the cure has ſtood for ſeveral ſeaſons: in other caſes of this kind, the patient has frequently ſuffered a relapſe, eſpecially in the ſpring. Dr. Fothergill obſerves, that the ſucceſs of this medicine depends on its being given in as large a doſe as the patient can bear; for otherwiſe, though continued for a length of time, it ſeldom procures any benefit: that the hemlock is in greateſt perfection when the flowers begin to fade, and the habit of the plant inclines to yellow; and that in making the extract, the leſs heat it undergoes, the better: that he has found twenty grains of one ſort of extract equal in point of efficacy to near forty of another: that the doſe is to be increaſed by degrees, till it produces certain effects, which ſeldom fail to ariſe from a full doſe, and which for the moſt part are, either a giddineſs affecting the head, and motions of the eyes, as if ſomething puſhed them outwards; or a ſlight ſickneſs and trembling agitation of the body; or a laxative ſtool or two: that here we muſt ſtop till none of theſe effects are felt, and in three or four days advance a few grains more: that a greater quantity can commonly be borne at night than at noon, and at noon than in the morning: that the method he commonly follows is, to order two drams of the extract to be made into thirty pills, of which two are to be taken in a morning, two at noon, and three or four at night, and one pill added to each doſe, according as the patient can bear it: that the extract, given in this manner, is apparently anodyne; promotes reſt, and eaſes pain; ſeldom creates thirſt, or that kind of morning head-ach which ſucceeds an opiate; rarely occaſions coſtiveneſs, but in moſt procures a laxative ſtool the day following: that in ſome habits, very ſmall doſes offend the ſtomach, excite ſpaſmodic twitchings, heat, and thirſt; and that in ſuch caſes, its uſe is immediately forbid.

* In a paper of Dr. Fothergill's in vol. 5th of the *London Med. Obſerv. and Inq.* the efficacy of extract of hemlock in a particular painful affection of the face, is related. This diſeaſe is a ſudden violent pain attacking ſome part of the face, continuing a very ſhort time, and returning at irregular intervals, the nature and cauſe of which is not diſtinctly known. The Doctor was led, from ſome circumſtances, to conſider it as owing to a cancerous acrimony. In moſt of the caſes he met with, the cicuta, taken in ſufficient quantity, and long enough perſiſted in, removed the complaint.

* This remedy has likewiſe been ſtrongly recommended in the cure of the chincough, by Dr. Butter, in a treatiſe on that diſeaſe. He repreſents it as no leſs efficacious in this complaint, then bark in an ague; but the trials

made by other practitioners do not ſeem to have confirmed this opinion.

* The following directions for preparing in the moſt perfect manner the extract of hemlock, are given by Dr. Withering in his *Botanical Arrangement of Britiſh Vegetables.* "Let ſeveral people be employed to gather the plant; and as faſt as it is cut, let others carry it in hand-baſkets to the preſs; but it muſt lie light and looſely in the baſkets. Let the juice be immediately ſqueezed out; and as faſt as it runs from the preſs, it muſt be put over the fire, and boiled till three parts out of four of the whole liquor is waſted. Then it muſt be put into a water bath, and evaporated to the conſiſtence of honey. If it is now taken and ſpread thin upon a board or marble ſlab, and expoſed to the ſun and the air, it will ſoon be of a proper conſiſtence to be formed into pills. From five to ten grains of this extract is a proper doſe; few conſtitutions will bear more without experiencing diſagreeable effects*(a)*." In the ſecond edition of the ſame valuable work, Dr. Withering, however, informs us, that from the uncertainty of the preparation of the extract, he has for ſome years laid aſide the uſe of it, and employed the powder of the dried leaves. Of this, from fifteen to twenty-five grains may be taken twice or thrice a day. It ſhould be kept in glaſs bottles, to which the light has no acceſs. See further, vol. I. p. 280. edition ſecond.

Succus ſpiſſatus cicutæ *Ph. Lond. & Ed.*

Of the two colleges, that of London directs the expreſſed juice to be ſimply inſpiſſated by the heat of a brine bath; that of Edinburgh directs that after the matter by inſpiſſation is brought to the conſiſtence of thin honey, it ſhould

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(a) Vol. i. p. 163. edition firſt.

ſhould be ſuffered to cool, and then be brought to a due pilular conſiſtence by adding the powder of the leaves. This powder ought to form about a fifth part of the whole maſs.

The root of hemlock is generally ſuppoſed to be, both in external applications and when taken internally, of more activity than the leaves. Stœrck relates, that on being cut, it yields a bitter acrid milk, of which a drop or two, applied to the tip of the tongue, occaſioned a rigidity, pain, and ſwelling of the part, ſo as to prevent ſpeech; and that he was freed from this complaint, by waſhing and rubbing the tongue with citron juice. In drying, it ſeems to loſe of its virulence: he ſays he has taken a grain or two of the powder without injury: there are inſtances of twenty and thirty grains being given, with advantage, in ſcirrhuſes of the liver, &c.(a), in quartan agues on the approach of a fit, and even in acute fevers(b). Nor does the freſh root appear to be at all times of equal virulence: I have ſeen it chewed freely, without any other effect being perceived, than an impreſſion of ſweetiſhneſs reſembling that of parſley roots or carrots: there are inſtances of ſome drams, and even ounces, having been taken, without producing any ill conſequence(c). So variable does this plant appear to be in its qualities; if really the ſubject of the ſeveral hiſtories was preciſely the ſame ſpecies of plant.

(a) Renealm, *Obſervat.* iii. & iv. Etmuller, *Schrœder dilucidat. par.* i. *ſect.* ii. *p.* 111.

(b) Bowle, *apud Raium, hiſt. plant.* i. 451.

(c) Petiver, *Philoſoph. tranſact. Abr. Lowthorp.* ii. 641. Henley, *ibid.* Jungius, *Eph. nat. curioſ. dec.* i. *ann.* iv. *obſ.* 106. Trew, *Commerc. lit. Norimberg. ann.* 1740. *hebd.* 47.

The ſeeds have been recommended by ſome as demulcent, paregoric, and antaphrodiſiac. Of their real qualities, little more is known with certainty, than that they are innocent to ſome kinds of birds: Mr. Ray ſays, he found the crop of a thruſh full of hemlock ſeeds, even at the ſeaſon when corn was plentiful.

Extract. ſemin. cicutæ *Ph. Ed.*

* In the *Medical Commentaries (a)*, it is aſſerted, that the extract prepared from the ſeeds of hemlock has been obſerved to be much more powerful than from the leaves. And in the laſt Edinburgh pharmacopœia, an extract of this kind is directed to be kept as an officinal.

CIMOLIA.

TWO ſorts of argillaceous earth are directed under this name in catalogues of the materia medica: CIMOLIA ALBA *ſeu Argilla alba*, the pure white ſtrong clay, called, from the uſe to which it is principally applied, Tobacco-pipe clay: and CIMOLIA PURPURASCENS, a compact bolar earth, commonly of a greyiſh brown colour, called, from its uſe, Fuller's earth.

THESE earths appear to be nearly of the ſame medical qualities with the boles formerly treated of; but are rarely or never employed, at leaſt under their own names, for any medicinal purpoſes. If the virtue of theſe kinds of ſubſtances depends, as it moſt probably does, on their ſoft viſcous quality, (for they do not appear to have any other, by which they can act in the bodies of animals) the white cimolia is obviouſly the moſt effectual of them all.

CINARA.

CINARA; Pharm. Lond. Cinara hortenſis Pharm. Edinb. Scolymus. Cinara hortenſis foliis

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(a) Vol. i. p. 326.

non aculeatis C. B. Cynara Scolymus Linn. Artichoke: a rough plant, with large greyiſh leaves, divided almoſt to the rib into irregularly indented ſegments: among theſe ariſes a thick ſtalk, bearing a large ſcaly head, which, opening at top, ſends out a number of purpliſh blue floſculi, followed by whitiſh ſeeds winged with down. It is perennial, a native of the ſouthern parts of Europe, and cultivated in our culinary gardens.

The bottoms of the heads, and the fleſhy part of the ſcales, are ſuppoſed to be of eaſy digeſtion; but groſs, flatulent, and of little nouriſhment. The leaves are bitter, and give out their bitterneſs, along with their juice, on being bruiſed and preſſed. The expreſſed juice is given in dropſies, and in ſome inſtances has proved ſucceſsful after the medicines more commonly made uſe of in that diſorder had failed: for this purpoſe, the juice, not depurated, or freed only from its groſſer feculency by paſſing it through a coarſe ſtrainer, is mixed with equal its quantity of white wine, and three or four ſpoonfuls or more of the mixture taken every morning and evening. Its operation is chiefly by urine.

CINNABARIS.

CINNABARIS NATIVA. Minium Græcorum. Native cinnabar: a ponderous, red, ſulphureous ore of mercury; found in Spain, Hungary, and ſeveral other parts of the world. The fineſt is imported from the Eaſt Indies: partly in pretty large irregular maſſes; partly in ſmaller roundiſh ones, ſmooth without, and ſtriated within; both externally and internally of an elegant deep red colour, which is greatly improved by grinding the maſs into fine powder.

Cinnabar conſiſts of quickſilver and common brimſtone; in the proportion of not leſs than four*(a)*, commonly ſix or ſeven*(b)* parts of the mercury, to one of the ſulphur: the finer its colour, the more mercury and the leſs ſulphur it is found to hold. The native cinnabar generally contains alſo a quantity of earthy matter, from which it may be purified by ſublimation. If this earth ſhould be of the calcareous kind, or if calcareous earths, iron filings, or other ſubſtances that abſorb ſulphur more ſtrongly than mercury does, be added; more or leſs of the ſulphur, proportionably to the quantity of ſuch abſorbent addition, will be detained at the bottom of the ſubliming veſſel: on this principle, the coarſer cinnabars may be freed from their redundant ſulphur as well as from their earthy matter, and thus rendered of a high colour: or the whole of the ſulphur may be detained, by an increaſe of the abſorbent material, and the pure mercury diſtilled off in its running form: one part of lime or iron filings is generally ſufficient for extricating all the mercury from four parts of cinnabar. The humid menſtrua, that diſſolve either one or the other of the ingredients of cinnabar by themſelves, have little effect upon the compound; the mercury being protected by the ſulphur from the action of acids, and the ſulphur by the mercury from that of alkaline liquors: alkalies indeed, even in the dry way of ſublimation,

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(a) Lemery, *Cours de chimie, part.* i. *chap.* viii. *operat.* 2.

(b) Cramer, *Elem. artis docimaſticæ, tom.* i. *edit.* ii. *p.* 287. Malouin, *Chimie medicinale, part.* iv. *chap.* 38.

mation, do not ſo perfectly detain the ſulphur as bodies of the earthy or metallic kind.

Native cinnabar has by many been preferred, as a medicine, to that which is made by art, but apparently on no good foundation. The only difference between them conſiſts in this; that the native is ſubject to an admixture of heterogeneous matters, which are not perhaps always innocent(*a*); and that the proportions of its conſtituent ingredients are more precarious than in the factitious. The native cinnabar is therefore deſervedly rejected by the London and Edinburgh colleges.

CINNAMOMUM.

CINNAMOMUM Pharm. Lond. & Edinb. Cinnamomum ſive canella zeilanica C. B. Caſſia cinamomea Hermann. hort. Lugd. Bat. CINNAMON: the bark of a tree of the bay kind, *(Laurus Cinnamomum Linn.)* growing in the iſland Ceylon; freed from the outer green or greyiſh part, and cut into long ſlices, which curl up, in drying, into quills or canes, the form in which it is brought to us; very thin, light, of a reddiſh yellow or pale ruſty iron colour, ſomewhat tough in breaking, and of a fibrous texture. It is frequently mixed with another bark, greatly reſembling it in appearance, but much weaker in virtue, *caſia lignea:* this laſt is diſtinguiſhed by the cloſe ſmooth

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(*a*) Accidit nonnunquam quod . . . nauſeas & vomitiones excitet, necnon etiam anxietates circa præcordia: quod & ipſe bis terve obſervavi, licet cinnabaris pluribus lotionibus purgata fuiſſet. *Geoffroy, mat. med.* i. 246.

ſurface which it exhibits on being broken, and by its remarkably ſlimy taſte.

THIS bark is one of the moſt grateful of the aromatics; of a very fragrant ſmell, and a moderately pungent, glowing, but not fiery taſte, accompanied with conſiderable ſweetneſs, and ſome degree of aſtringency. It is ſaid, that the fine flavour reſides, originally, only in the thin pellicle, which lines the interiour ſurface of the bark, and which abounds with veſicles of eſſential oil; the reſt of the bark, while freſh, being merely ſubaſtringent, and receiving the flavour, which we find it to have, from the inner pellicle in drying*(a)*. Accordingly the thinneſt pieces are found to be ſtrongeſt; as containing the largeſt proportion of this active part, and the leaſt of the inert woody matter.

Cinnamon, infuſed in boiling water in a cloſe veſſel, gives out to the fluid greateſt part of its virtue: together with a reddiſh brown tincture, deeper or paler, according to the proportion of cinnamon employed. Rectified and proof ſpirit extract its virtues more perfectly than water, and without the aſſiſtance of heat; three ounces of the powdered bark, by cold maceration for a few days, give a ſtrong impregnation to a quart† or two pints and a half‡ of proof ſpirit.

Tinctura cinnamomi
† *Ph. Lond.*
‡ *Ph. Ed.*

The aromatic principle of this ſpice is an eſſential oil; which, in diſtillation with water, riſes ſlowly and difficultly, and renders the liquor ſomewhat milky: the water continues to run milky, and gratefully impregnated with the fragrance of the cinnamon, till about a gallon has been drawn off from a pound: when large

Aq. cinnam. ſimp. *Ph. Lond. & Ed.*

(a) *Acta acad. cæſareæ nat. curioſ. vol.* i. *ann.* 1727. *Append. p.* 8.

quantities of the ſpice are ſubmitted to the operation at once, a ſmall portion of oil commonly ſeparates and ſinks to the bottom of the water; in colour gold yellow; of a delightful ſmell like that of the cinnamon itſelf; and of a fiery pungency, ſo as not to be ſafely taſted or applied to the ſkin without dilution; for, as Boerhaave obſerves, it burns the part to a gangrenous eſchar: in doſes of a drop or two, diluted by the means of ſugar, mucilages, *&c.* it is one of the moſt immediate cordials and reſtoratives, in languors, ſingultuſes, and all debilities. If the milky diſtilled water be long kept, great part of the ponderous oil, ſuſpended in it, ſeparates and ſubſides: ſome, with a view to the perfection of the water, endeavour to prevent this ſeparation, by adding a ſmall proportion of ſugar, which contributes to keep the oil diſſolved: others, with a view only to the obtaining of the oil, endeavour to promote the ſeparation, by ſetting the liquor in a very cold place, and perhaps by other means not commonly known. It is ſaid, that from ſixteen ounces of good cinnamon, a dram and a half or two drams of oil have been collected.

Ol. eſſent. cinnamom. *Ph. Lond. & Ed.*

The watery decoction, remaining after the diſtillation, yields, on being inſpiſſated, a mildly aſtringent maſs, which has nothing of the ſweetneſs, any more than of the peculiar flavour of the cinnamon. It is obſervable, that this extract is free from the nauſeous reliſh which moſt of the other ſpices diſcover, in a greater or leſs degree, when diveſted by the ſame means of their proper aromatic matter.

Rectified ſpirit, diſtilled from cinnamon, brings over very little of its flavour. An extract, made by this menſtruum, retains nearly all the valuable parts of the ſpice, the ſweet aromatic matter as well as the reſtringent: it has a durable and very grateful warmth and pungency, not a fiery heat like the ſpirituous extracts of many other ſpices; the heat and pungency of cinnamon reſiding in the pure eſſential oil. The quantity of this extract is about one ſixth of that of the cinnamon employed.

On diſtilling proof ſpirit from this ſpice, the purely ſpirituous part, which comes over firſt, proves almoſt flavourleſs, but the watery part which follows brings with it the eſſential oil; and this oil being diſſolved by means of the ſpirituous portion, the liquor proves limpid. A cordial water of this kind is commonly prepared in the ſhops, by drawing off a gallon † or nine parts ‡ of proof ſpirit from a pound of cinnamon. A like preparation might be obtained rather more advantageouſly, and free from the foreign flavour which the common proof ſpirits are accompanied with, by adding to the ſimple water a ſuitable quantity of pure rectified ſpirit.

Spir. cinnam. † *Ph. Lond.* Aq. cinnam. ſpirituos. ‡ *Ph. Ed.*

Some other products of the cinnamon tree are uſed medicinally in the eaſtern countries, and have been ſometimes, though very rarely, brought into Europe; to wit, an aromatic eſſential oil diſtilled from the roots, and a ſpecies of camphor which ſeparates from this oil on rediſtilling it: an oil drawn from the leaves, ſimilar in flavour to the genuine oil of cloves with a little admixture of that of the cinnamon bark; and a whitiſh ſebaceous matter, ſaid to reſemble the expreſſed oil of nutmegs, obtained either by expreſſion or by coction in water from the fruit (a).

Ol. caphuræ. Caphura baros *Indorum.*

Oleum malabathri. Cera cinnamomi.

(a) Albertus Seba, *Acta academiæ cæſareæ, ubi ſupra, p.* 11, 12.

CITREA.

CITREA.

CITREA MALUS. Malus medica C. B. Citrus medica Linn. CITRON: a ſmall evergreen tree, reſembling the lemon, and differing from it chiefly in the fruit; which is much larger, leſs juicy, and contains, under the yellow rind, a thicker fungous white bark. It is a native of Aſia, and cultivated in the ſouthern parts of Europe.

THIS fruit has a near affinity with lemons in its medicinal qualities as well as in its external form: the principal difference lies, in the juice of the citron being ſomewhat leſs acid, and the yellow rind being ſomewhat hotter and accompanied with a conſiderable bitteriſhneſs. The rind gives out its virtue, equally with that of lemons, both to watery and ſpirituous menſtrua; but its flavour is not equally retained in the ſpirituous extract, the eſſential oil of citron peel being very light and volatile, ſo as in great part to riſe in diſtillation along with the higheſt rectified ſpirit. Several varieties of theſe trees are common in the warmer climates. Oils obtained from the freſh peels of the more odoriferous kinds, by rolling the fruit on a plane ſtuck full of points, are brought from Italy, and uſed as perfumes: theſe are ſomewhat more grateful, and conſiderably leſs pungent, than ſuch as are drawn by diſtillation with water. The oil prepared in either of theſe ways is very ſubject to loſe of its fine flavour, and become thick and reſinous in keeping: when diſtilled with rectified ſpirit, and afterwards ſeparated from the ſpirit by dilution with a large portion of water, it retains much longer its odour, fluidity, and limpidneſs.

Eſſentia de cedro *German.*

Ol. cedrinum *Ph. Pariſ.*

COCCINELLA.

COCCINELLA Pharm. Lond. Cochinilla Pharm. Edinb. Coccus Cacti Linn. COCHINEAL: little wrinkled grains, of an irregular figure, convex on one ſide and flat or ſomewhat hollowed, on the other, externally of a dark red colour generally ſprinkled with a whitiſh clammy powder, internally of a deep bright red. This ſubſtance, brought from Mexico and New Spain, ſuppoſed formerly the ſeed of a plant, appears to be an inſect of the ſcarabæus kind, found adhering to the leaves and branches of the opuntia or American prickly pear tree, and carefully preſerved and cured by the natives. The male inſects have wings, and are about the ſize of a flea: the females have no wings, and are larger; when full of young, they become torpid, and ſwell ſo as on firſt ſight to reſemble berries, in which ſtate they are ſwept off with a pencil: if left till the young ones creep out, the parent dies, and its body becomes an empty huſk.

THE principal uſe of cochineal is as a colouring drug: it gives a fine deep durable red both to rectified and proof ſpirit, and a deep purpliſh crimſon to water: neither the watery or ſpirituous infuſions ſuffer any change of their colour on being inſpiſſated to the conſiſtence of an extract. Cochineal has been ſometimes uſed alſo in a directly medicinal view, and ſuppoſed to act as a mild corroborant and diaphoretic. It has a faint muſty kind of ſmell, and a very ſlight bitteriſh roughiſh taſte; both which are taken up, along with the colouring matter, by watery and by ſpirituous menſtrua, and, though ſcarcely perceptible in the dilute tinctures or infuſions, are very ſenſible in the inſpiſſated extracts, particularly in that made with ſpirit. Cartheuſer obſerves, that the mucilaginous bitteriſh watery extract amounts to three fourths of the weight of the cochineal; and the balſamic bitter and moderately aſtringent ſpirituous extract, to nearly as much.

COCHLEARIA.

SCURVYGRASS: a low plant; with thick juicy leaves, ſomewhat hollowed ſo as to reſemble a ſpoon, thoſe from the root ſtanding on long pedicles, thoſe on the ſtalk joined cloſe to it without pedicles; producing, towards the upper part of the ſtalks, ſmall white tetrapetalous flowers, followed by roundiſh ſeed-veſſels. It is annual; grows wild in ſeveral parts of England, particularly about the ſea coaſts and ſalt marſhes; and flowers in May or ſooner.

1. COCHLEARIA HORTENSIS *Pharm. Lond. Cochlearia Pharm. Edinb. Cochlearia folio ſubrotundo C. B. Cochlearia officinalis Linn.* Garden or Dutch ſcurvygraſs: with the radical leaves unevenly roundiſh, and thoſe on the ſtalks oblong. It is commonly cultivated, for the uſe of the ſhops, in gardens; and does not appear, like many other maritime plants, to change its qualities with the ſoil.

2. COCHLEARIA MARINA *ſeu britannica. Cochlearia folio ſinuato C. B. Cochlearia anglica Linn.* Engliſh or ſea ſcurvygraſs: with all the leaves alike, oblong, pointed, deeply and irregularly indented or ſinuated.

The freſh leaves of theſe plants have an ungrateful kind of ſmell, and a penetrating acrid taſte: the firſt ſort is conſiderably the ſtrongeſt, and hence has long ſuperſeded the uſe of the other. The flowers and ſeeds alſo are pungent, but leſs ſo than the leaves.

Scurvygraſs is a powerful antiſeptic, attenuant, and aperient: it manifeſtly promotes the ſenſible excretions, particularly urine, without heating or irritating ſo much as might be expected from its great pungency. It is one of the capital antiſcorbutic herbs, and in this intention has been principally made uſe of, in conjunction, generally, with mild vegetable acids, or ſubſtances of leſs acrimony, as orange juice, ſorrel, becabunga, *&c.* It is of ſervice alſo in paralytic and cachectic indiſpoſitions; and in the wandering rheumatic pains, of long continuance, unaccompanied with a fever, called by Sydenham the ſcorbutic rheumatiſm. I have had frequent experience of the efficacy of the compoſition which he preſcribes in this commonly obſtinate diſtemper, and which, he ſays, if the public had not outweighed private advantage, he ſhould have concealed; to wit, ſixteen parts of freſh made conſerve of garden ſcurvygraſs, eight of conſerve of wood ſorrel, and ſix of the compound powder of arum root, made up with ſyrup of orange peel into an electuary, of which two drams are to be taken thrice a day for a month, along with ſome ounces of a diſtilled water impregnated with ſcurvygraſs, mint, nutmegs, *&c.* Among different aromatic materials made trial of for covering the ill flavour of ſcurvygraſs, nutmegs ſeemed to anſwer the beſt. Inſtead of the compound powder of arum in the above compoſition, an equal quantity or more of freſh arum root, mixed with as much powdered gum-arabic, may be advantageouſly ſubſtituted; and probably the virtues of the medicine depend as much upon this root as on the ſcurvygraſs.

The active matter of this plant is extracted by maceration both in watery and in ſpirituous menſtrua, and accompanies the juice obtained by expreſſion. The moſt conſiderable part of it is of a very volatile kind; the peculiar penetrating pungency totally exhaling, in the exſiccation of the herb, and in the evaporation of the liquors; and only a ſlight biting bitteriſhneſs remaining in the dried leaves, in the inſpiſſated juice, and in the ſpirituous as well as in the watery extracts. The freſh leaves, beaten into a conſerve with thrice their weight of fine ſugar, may be kept in a cloſe veſſel, without much diminution of their virtue, for years. The juice alſo, purified from its feculencies by ſettling and ſtraining, may be preſerved for a conſiderable time, though by no means equally with the conſerve, by ſetting it in a cool place, and covering the ſurface with a little oil to prevent the acceſs of air. The orange or ſorrel juice, commonly added to that of the ſcurvygraſs, ſeem to promote the depuration; for if the juices, ſeparately, are made moderately fine, they ſoon depoſite, on being mixed together, a freſh feculence.

The principal virtue of this plant reſides in an eſſential oil; ſeparable, in very ſmall quantity, by diſtillation with water. The oil is ſo ponderous, as to ſink in the aqueous fluid; but of great volatility, ſubtility, and penetration. One drop, diſſolved in ſpirit, or received on ſugar, communicates to a quart of wine or other liquors the ſmell and taſte of ſcurvygraſs. It riſes in diſtillation with rectified ſpirit as well as with water: a pint of rectified ſpirit, drawn off, in the heat of a water bath, from two pounds of the freſh herb bruiſed, brings over nearly all the oil, and proves exceeding ſtrongly impregnated with the volatile pungency of the ſcurvygraſs. Both the oil and the ſpirit, particularly the former, require the bottles they are kept in to be very carefully ſecured; the ſubtile matter of the plant, when thus diſengaged by diſtillation from the groſſer parts, being extremely diſpoſed to eſcape.

COFFEA.

COFFEE: a pale coloured oval ſeed, ſomewhat ſmaller than a common bean, convex on one ſide, flat on the other with a remarkable furrow. It is the produce of a tree of the jaſmine kind, (*jaſminum arabicum caſtaneæ folio, flore albo odoratiſſimo, Commelin. hort. amſt. Coffæa arabica Linn.)* growing in Arabia, and thence introduced into the Weſt Indies: the fruit is a juicy berry, including two of the ſeeds, joined by the flat ſides, and covered each with a thin ſhell.

Coffee ſeeds have a farinaceous, ſomewhat unctuous, bitteriſh taſte, and little or no ſmell: the flavour, for which they are valued, is procured by gentle roaſting; and ſome of our own ſeeds and kernels acquire, by that proceſs, a flavour ſomewhat of the ſame kind. The roaſted ſeeds, ground into powder, ſoon loſe their flavour in the air, impart it to water and ſpirit by ſlight coction or digeſtion, and give over great part of it with water in diſtillation. An extract made from them by water is, not diſagreeably, bitteriſh: an extract made by rectified ſpirit is ſtronger, and not a little nauſeous.

The dietetic uſe of coffee is ſaid to ſtrengthen the ſtomach and promote the ſecretions; to be ſerviceable in phlegmatic corpulent habits; to be injurious in thin habits and bilious temperaments, in melancholic and hypochondriacal diſorders, and to perſons ſubject to hemorrhages.

* From ſome experiments related by Dr. Percival in Vol. II. of his *Eſſays Medical and Experimental*, it appears that coffee is ſlightly aſtringent and antiſeptic; that it reſtrains fermentation; and has a powerful ſedative action on the nervous ſyſtem. Sir John Pringle, in a letter to the ſame author, recommends ſtrong coffee as the beſt abator of the paroxyſms of the periodic aſthma with which he is acquainted. He directs for this purpoſe an ounce of beſt Mocha coffee to be made into a ſingle diſh, to be repeated freſh after the interval of a quarter or half an hour, and drunk without milk or ſugar.

COLCHICUM.

COLCHICUM: Pharm. Lond. & Edinb. Colchicum autumnale Stærck. & Linn. Colchicum commune C. B. Colchicum anglicum purpureum & album Ger. & Park. MEADOW SAFFRON: a plant with a fleſhy bulbous root, producing from its lower part a ſmaller bulb: from this laſt ariſes, in autumn, along a furrow in the ſide of the old root, a ſlender hollow tranſparent pedicle, widening at top into a flower like thoſe of the crocuſes, divided into ſix ſegments, of a purpliſh or whitiſh colour, withering in two or three days: from the ſame root, next ſpring, come forth three or four upright leaves, like thoſe of the lily; in the middle of which appear, on ſhort pedicles, commonly three triangular pods, about the ſize of ſmall walnuts, divided into three cells full of roundiſh dark-coloured ſeeds. It grows wild in rich moiſt meadow grounds in the ſouthern and weſtern parts of England. The roots, freed from the outer blackiſh coat and the fibres at bottom, are while freſh of a white colour, and full of a milky juice; in drying they become wrinkled, and of a blackiſh or dark reddiſh brown.

THIS is one of thoſe plants, whoſe violent and ſingular effects in the bodies of animals engaged the attention of Dr. Stœrck; in hopes that by giving it in very ſmall doſes, or by due preparation, it might be converted into a medicine not only ſafe, but capable of relieving diſorders in which the common remedies prove ineffectual. He obſerves, that on cutting the freſh root into ſlices, the acrid particles emitted from it irritate the noſtrils, fauces, and breaſt, and that the ends of the fingers with which it had been held become for a time benumbed: that applied for two minutes to the tip of the tongue, it rendered the part rigid and almoſt void of ſenſation for ſix hours: that leſs than a grain, wrapt up in crumb of bread and taken internally, produced alarming ſymptoms, a burning heat and pain in the ſtomach and bowels, ſtrangury, teneſmus, thirſt, total loſs of appetite, &c. which were greatly relieved by an acidulous mixture with ſyrup of poppies, and which on the fourth day went entirely off: that an infuſion of three grains of the root in four ounces of wine, ſlowly ſwallowed, occaſioned a tickling in the larynx and ſhort dry cough, ſoon after a heat in the urinary paſſages and a copious diſcharge of pale urine, without ſenſibly affecting the other functions of the body: that an ounce of the ſliced juicy root being digeſted with a gentle heat in a pound of vinegar for forty-eight hours, and the bottle frequently ſhaken; the root became almoſt inſipid, and the ſtrained vinegar proved acrid in taſte, irritated and conſtringed the fauces, and raiſed a ſhort cough: that this vinegar, mixed with twice its quantity of honey, and gently boiled down to the conſiſtence of honey (frequently ſtirring the mixture with a wooden ſpoon) proved a ſufficiently grateful oxymel, which taken in doſes of a tea-ſpoonful, that is, a dram, promoted a copious diſcharge of urine, without inconvenience. After theſe experiments on himſelf, he made trial of this oxymel, in the hoſpital at Vienna, in deſperate hydropic and other ſerous diſorders, in which it was always found to act without diſturbance, as a moſt potent diuretic, after the common medicines employed in that intention had failed. He begins with giving a dram twice a day in any ſuitable vehicle, and gradually increaſes the doſe to an ounce and ſometimes an ounce and a half in a day: if this laſt quantity ſhould prove ineffectual, he thinks there are little hopes of any benefit from this medicine. * The Edinburgh college have received into their pharmacopœia a ſyrup of colchicum, made with the ſame infuſion of the root in vinegar as above deſcribed, in which are diſſolved twenty-ſix ounces of fine ſugar.

Oxymel colchicum *Ph. Lond.*

Syr. colchici *Ph. Ed.*

COLOCYNTHIS.

COLOCYNTHIS Ph. Lond. & Edinb. COLOQUINTIDA: the dried medullary or pulpy part of a ſpecies of gourd or cucumber, *(Cucumis Colocynthis Linn.)* brought from Aleppo. It is very light, white, of a fungous texture, compoſed as it were of membranous leaves, with a number of roundiſh ſeeds lodged in the cavities.

The fungous medulla, freed from the ſeeds, (which are ſomewhat unctuous and ſweetiſh, like thoſe of the common cucumber) has a nauſeous, acrid, intenſely bitter taſte. It is a very ſtrong irritating cathartic; commended by ſome, not only as an efficacious purgative, but likewiſe as an alterative in obſtinate chronical diſorders; by others condemned, as a dangerous and deleterious drug. Thus much is certain, that when given by itſelf, in ſubſtance, in ſuch doſes as to purge effectually, as eight or twelve grains, it operates for the moſt part with great vehemence; diſordering the conſtitution, occaſioning violent gripes and ſometimes bloody diſcharges. Its principal uſe is as a ſtimulus to other purgatives.

Colocynth, boiled in water, renders a large quantity of the liquor ropy and ſlimy: even a tincture of it made in proof ſpirit is ſo glutinous, as not to paſs through a filter, and not eaſily through a common ſtrainer. The watery decoctions inſpiſſated, yield a large proportion, half the weight of the colocynth or more, of a mucilaginous extract; which purges ſtrongly, but with much leſs irritation, and greater ſafety than the colocynth itſelf, and appears to be the beſt preparation obtainable from this draſtic drug. The college of London directs a tincture of coloquintida in proof ſpirit, in which ſcammony and aloes are to be diſſolved, and the whole inſpiſſated together. This form is greatly preferable

Extract. colocynth. comp. *Ph. Lond.*

preferable to thoſe in which the colocynth in ſubſtance is joined to the ſame materials.

*COLUMBO.

COLOMBA radix Ph. Lond. & Edinb. Calumba Redi Exper. nat. A root brought from Columbo, a town in the iſland of Ceylon, to which it was originally tranſplanted from the continent of India. It is called by the Portugueze *Raijs de Moſambique.* We are as yet unacquainted with the vegetable of which it is a part.

Columbo root comes to us in circular pieces, which are from half an inch to three inches in diameter, and from two inches to one quarter of an inch in length. The ſides are covered with a thick wrinkled bark, of a dark brown colour externally, but of a light yellow within. The ſurfaces of the tranſverſe ſections appear very unequal, higheſt at the edges, with a concavity towards the center. On paring off this rough ſurface, the root is ſeen to conſiſt of three lamina, the cortical, ligneous, and medullary. This laſt is much the ſofteſt, and when chewed ſeems very mucilaginous. A number of ſmall fibres run longitudinally through it, and appear on the ſurface. The cortical and ligneous parts are divided by a circular black line. All the thicker pieces have ſmall holes drilled through them, for the convenience of drying.

This root has an aromatic ſmell, but is diſagreeably bitter and pungent to the taſte, ſomewhat reſembling muſtard-ſeed long kept.

From a number of pharmaceutical experiments on the columbo root, it appears to give out its virtues more completely to ſpirituous,

than

than to watery menſtrua. The watery infuſion is more periſhable than that of other bitters. A copious precipitation takes place in it in twenty-four hours; and in two days it becomes ropy and muſty. By the united action of water and rectified ſpirits, an extract weighing eight ounces and two drams was obtained from twelve ounces of the root. This extract is found to retain the entire flavour of the columbo, and to be equal, if not ſuperiour, in virtue to the powder of the root. The antiſeptic power of an infuſion of columbo, upon animal fleſh, was found to be leſs than that of Peruvian bark; but its efficacy in correcting and preventing the putridity of the bile, appeared to be ſuperiour to that of bark or camomile flowers. Columbo conſiderably checks the progreſs of fermentation in alimentary mixtures; and neutralizes a large proportion of acid. It has little or no aſtringency.

The columbo root has long been a medicine in repute among the natives of the countries which produce it, in diſorders of the ſtomach and bowels. They carry it about with them, and take it, ſliced or ſcraped, in Madeira wine. Our practitioners in the Eaſt Indies adopted the the uſe of it from them; and frequently found it of great ſervice in the *cholera morbus*, ſo common and fatal in thoſe hot climates. It was obſerved to ſtop the violent vomiting in this complaint, more ſpeedily and effectually than any other remedy; an effect attributed to its property of correcting the putrid diſpoſition of the bile. It was, however, little known or regarded in this country, till Dr. Percival, in his *Eſſays Medical and Experimental*, Vol. II. publiſhed obſervations and experiments on this root, (from which the ſubſtance of this article is taken) with caſes of its efficacy in various diſeaſes depending on the ſtate of the bile; as the bilious colic, bilious fevers, diarrhœas, habitual vomitings, &c. The experience of other practitioners has confirmed its utility in theſe caſes. The doſe of the powder uſually employed has been from one to two ſcruples. A tincture of columbo, in the proportion of two ounces and a half of the root to a quart of proof ſpirit, is directed by the London college.

Tinct. Colombæ *Ph. Lond.*

CONESSI.

CONESSI Med. eſſ. Edinb. Codago-pala Hort. malabar. Ph. Pariſ. Conessi: the bark of a ſmall tree, *(Nerium antidyſentericum Linn.)* growing in the iſland Ceylon and Malabar; of a dark blackiſh colour on the outſide, covered more or leſs with a white moſs or ſcurf: the bark of the ſmall young branches, which has the leaſt of this matter, is preſerved. It has but lately been introduced into Europe, and is as yet little known in the ſhops.

This bark, to the taſte gratefully auſtere and bitter, is recommended in the Hortus Malabaricus for the cure of diarrhœas; and its efficacy in this diſorder has been confirmed in the Edinburgh medical eſſays. The bark, freed from the ſcurf, is directed to be made into an electuary with ſyrup of oranges, and taken to the quantity of half a dram or more four times a day: it ſenſibly loſes of its roughneſs and its virtue if kept for two or three days, in the form either of powder or electuary; and hence freſh quantities are to be prepared at leaſt every other day. It is ſaid, that the firſt day of taking the medicine, it increaſes the number and quantity of the ſtools, without increaſing the gripes; that on the ſecond day, the colour of the ſtools is mended; and that on the third or fourth day, if it ſucceeds at all, the conſiſtence generally comes near to a natural ſtate: that in recent diarrhœæ, from irregularities, it ſeldom fails to cure, if a vomit, of ipecacoanha, is given immediately before its uſe: that the ſame management ſucceeds in perſons of a lax habit, to whom diarrhœæ are familiar in moiſt weather: but that, in any caſe, if a fever is joined, the coneſſi has no place till the fever is removed. Mr. Monro informs us, in the Eſſays abovementioned, that he cured a dyſentery of three years ſtanding, which had reſiſted a great variety of other medicines, by giving this bark in the form above preſcribed.

CONSOLIDA.

CONSOLIDA major ſive Symphytum majus. Symphytum conſolida major C. B. Symphytum officinale Linn. Comfry: a rough plant; with large, ſomewhat oval, pointed leaves; producing, on the tops of the branches, ſpikes of white or purpliſh, pendulous, nearly cylindrical flowers, followed each by four ſhining black ſeeds: the root is thick and fleſhy, black on the outſide and white within. It is perennial, grows wild in moiſt grounds, and flowers in May or June.

The roots of comfry abound with a viſcid glutinous juice, of no particular taſte or flavour. The dried root, boiled in water, renders a large proportion of the fluid ſlimy: the decoctions, inſpiſſated, yield a ſtrong flavourleſs mucilage, ſimilar to that obtained from althea, but ſomewhat

what ſtronger-bodied or more tenacious, and in ſomewhat larger quantity, amounting to about three fourths the weight of the comfry. From this analyſis it may be preſumed, that the conſolida, though rarely employed in practice, is rather ſuperiour to the althea in the ſeveral intentions in which that root is made uſe of; the mucilaginous matter being, in both roots, the only medicinal principle.

CONTRAYERVA.

CONTRAYERVA Pharm. Lond. & Edinb. CONTRAYERVA: the root of a ſmall plant *(dorſtenia ſphondylii folio, dentariæ radice, Plum. gen. dorſtenia contrayerva Linn.)* growing in Peru and other parts of the Spaniſh Weſt Indies. The root is an inch or two in length, and about half an inch thick; full of knots and irregular tubercles; ſurrounded on all ſides with numerous long tough fibres, moſt of which are loaded with ſcaly knobs; of a reddiſh brown colour on the outſide, and pale within. It was firſt brought into Europe, about the year 1581, by Sir Francis Drake, whence its name *Drakena radix.*

THIS root, freed from the fibres, which are much weaker than the tuberous part, has a light aromatic ſmell; and a roughiſh, bitteriſh, penetrating taſte, which, as Fuller obſerves, is not eaſily concealed by a large admixture of other ſubſtances. It is given, as a diaphoretic and antiſeptic, in low and malignant fevers, and appears to be one of the mildeſt and ſafeſt of the ſubſtances of the pungent kind commonly made uſe of in theſe intentions; not being liable to produce, though taken pretty freely, any conſiderable heat. The doſe, in ſubſtance, is from five or ſix grains to half a dram and more; in decoction or infuſion, from half a dram to two drams. A compound powder, in which five parts of it are mixed with eighteen of abſorbent earths, has long been an officinal preparation, but is now much leſs employed than formerly.

Pulv. contrayerv. comp. *Ph. Lond.*

Contrayerva root gives out its virtue, by the aſſiſtance of heat, both to water and rectified ſpirit; and tinges the former of a dark-browniſh red, the latter of a brighter reddiſh colour: the watery decoction is very mucilaginous, ſo as not to paſs through a filter. In diſtillation or evaporation, pure ſpirit elevates nothing, and water very little of its virtues; the active matter of this root being of the fixt kind, and remaining nearly entire in the watery as well as in the ſpirituous extracts. The extract made by rectified ſpirit taſtes ſtrongly of the contrayerva, and leaves in the mouth a durable, glowing, vibrating kind of pungency, like that of peppermint, but far milder: its quantity is about three drams from ſixteen of the root. The quantity of watery extract is more than double to that of the ſpirituous, and its taſte proportionably weaker.

C O P A L.

COPAL: ſuppoſed to be a reſinous concrete, obtained from certain large trees growing in New Spain; more probably a mineral bitumen, analogous to amber. It is brought to us in irregular maſſes; ſome of which are tranſparent, and of all the intermediate ſhades of colour from a very light yellow to a gold colour and a deep brown; others are whitiſh and ſemitranſparent. In the middle of ſome of the maſſes is found a cavity containing ſome drops of a clear ſaline liquor: in others, inſects and vegetable matters are incloſed (a).

These concretes, however various in appearance, are in quality very nearly if not entirely alike. They have a more agreeable ſmell than frankincenſe, to which ſome have reſembled them, and when laid on a red-hot iron, they do not melt ſo thin, or burn away ſo faſt. They do not ſoften in the mouth on being chewed, like anime, with which they have been confounded by others. From thoſe, and from all the other known reſinous bodies, they differ more remarkably, in being exceeding difficultly diſſoluble in rectified ſpirit of wine, and yielding in diſtillation an oil which like the mineral petrolea is alſo indiſſoluble in ſpirit; in being readily diſſolved by the concentrated vitriolic acid, and eſſential oils, not by expreſſed oils, or volatile or fixt alkalies. Though pure ſpirit of wine, by moderate digeſtion, ſeems to have little action on copal; a boiling heat, or long agitation, enables it to take up a conſiderable portion: the undiſſolved part is tenacious and white: the filtered ſolution is of a gold yellow colour, in taſte at firſt ſweetiſh, afterwards agreeably aromatic, inclining to bitter. It is ſaid that ſpirit of wine ſaturated with camphor diſſolves the copal more eaſily than pure ſpirit. The medicinal effects of this bitumen are not much known, as it has never been much in uſe: it is recommended as a warm corroborant; and may be preſumed to be ſimilar to amber.

(a) *Memoires de l'acad. roy. des ſcienc. de Berlin, pour l'ann.* 1758.

CORALLINA.

MUSCUS MARITIMUS ſive corallina officinarum C. B. CORALLINE: a marine production, common on rocks, ſhells, &c. reſembling a ſmall plant without leaves; conſiſting of numerous ſlender jointed branches, generally of a greyiſh or whitiſh colour, ſometimes greeniſh, yellowiſh, reddiſh, or blackiſh; of a brittle ſtony ſubſtance, friable betwixt the fingers, and crackling between the teeth. It has been commonly ſuppoſed a vegetable; but late obſervations afford grounds to believe, that it is of an animal origin: it is apparently the habitation, and probably the production, of marine polypi.

POWDERED corralline has been celebrated in doſes of from half a ſcruple to a dram, as an anthelmintic; probably on too ſlight foundation. As uſually met with in the ſhops, it has no ſmell, and very little if any taſte. It is almoſt wholly diſſolved by aqua fortis, is precipitated from this acid by the admixture of the vitriolic, and by calcination in a ſtrong fire becomes a true quicklime; proofs that it conſiſts chiefly of an abſorbent calcareous earth, and that it is of the ſame general nature with crabs-claws, oyſter-ſhells, and other teſtaceous marine bodies.

CORALLIUM.

CORALLIUM rubrum Pharm. Lond. RED CORAL: a hard, brittle, branched ſubſtance, reſembling the ſtalk of a plant; uſually about the thickneſs of a gooſe quill; full of knots; ſometimes ſtraight, and ſometimes variouſly bent; both externally and internally of a deep bright red colour. It is found adhering to rocks and other bodies in the ſea, particularly in the Mediterranean; covered with a ſoft fungous bark, in which is a great number of cells curiouſly divided, containing a milky juice, with apertures on the ſurface: this cortical part is ſeparated while freſh and ſoft. It has been generally referred to the vegetable kingdom; but is more probably, like the preceding, the work and the neſt of little animals.

Red coral appears to have for its baſis the ſame calcareous animal earth as the corallines and the ſhells of ſea fiſhes: like them, it is changed by calcination into quicklime, diſſolves in all acids except the vitriolic, and is precipitated by this laſt from its ſolutions made in the others. It is uſed alſo, like thoſe productions, as an abſorbent of acid humours in the firſt paſſages; and like them, when ſatiated with ſuch acids as are generated in the bodies of animals, it forms therewith a reſtringent ſaline compound. That it has any virtues diſtinct from thoſe of the other calcareous abſorbents, or that it is ſuperiour in abſorbent power to the cheaper teſtaceous bodies, there are no grounds to ſuſpect.

Corallium præparatum *Ph. Lond.*

The levigated coral is ſometimes counterfeited in the ſhops with the common teſtacea coloured with dragons blood or red bole. Theſe abuſes may be diſcovered, by ſhaking the powder with water and ſuffering it to ſettle, when the white and the coloured matter will ſeparate from one another and appear in great part diſtinct: dragons blood may be known likewiſe by its giving a red tincture to ſpirit of wine; and bole, by its retaining its redneſs in the fire, whilſt coral burns white.

CORIANDRUM.

CORIANDRUM Pharm. Lond. & Edinb. Coriandrum majus C. B. Coriandrum ſativum Linn. CORIANDER: an umbelliferous plant, with finely divided leaves; producing pale yellowiſh or browniſh, ſtriated, hemiſpherical ſeeds, which are joined, by the flat ſides, two together. It is annual, a native of Italy, and cultivated in ſome parts of England.

THE leaves of coriander have a ſtrong ſmell, ſomewhat of the aromatic kind, but not a little diſagreeable. The ſeeds alſo have, when freſh, a very unpleaſant flavour, which by drying is altered and becomes tolerably grateful: their taſte, in this dry ſtate, is moderately warm and ſlightly pungent.

The dried ſeeds are ſometimes employed as a ſtomachic and carminative, though leſs frequently than the other warm ſeeds. They give out their virtue totally to rectified ſpirit, but only partially to water: the ſpirituous tincture is of a pale bright yellow colour, the watery infuſion of a deeper browniſh. In diſtillation with water, they yield a ſmall quantity of a yellowiſh eſſential oil, which ſmells ſtrongly and pretty agreeably of the coriander. Pure ſpirit likewiſe carries off, in evaporation or diſtillation, great part of their flavour; the ſpirituous extract proving, in taſte as well as in ſmell, conſiderably weaker than the tincture uninſpiſſated.

CORNU CERVI.

CORNU CERVI Pharm. Lond. HARTSHORN: large branched horns of the hart or male red deer. The horns uſually met with in the ſhops are thoſe of the common or fallow deer.

Hartshorn, raſped or ſhaved, gives out to water, by boiling, a ſoft gelatinous matter, of ſcarcely any particular flavour, amounting, when inſpiſſated, to about one fourth the weight of the horn. The decoction and jelly are ſometimes directed in diarrhœas and other diſorders, partly as affording a mild nutriment, and partly for obtunding and incraſſating acrimonious thin humours. An elegant hartſhorn jelly is prepared, by boiling half a pound of the ſhavings in three quarts of water till two parts are waſted, and adding to the ſtrained liquor an ounce of Seville orange or of lemon juice, a quarter of a pint of mountain wine, and half a pound of fine ſugar; and boiling down the mixture to a due conſiſtence. Compoſitions of this kind are very grateful to many in acute diſeaſes.

On diſtilling the horn with a red heat, it gives over a volatile ſalt and ſpirit, together with a fetid empyreumatic oil. The ſame products are obtainable, in greater or leſs quantity, from all animal ſubſtances, though thoſe prepared from hartſhorn have been in moſt general uſe: ſee *ſal alkalinus volatilis.*

Cornu cervi philoſophice præparatum.

The horns, ſo far freed from their gelatinous matter as to be pulverable, either by boiling them in water or by expoſing them to its ſteam, have been uſed by ſome in the ſame intentions as the abſorbent earths: by calcination in a ſtrong fire, with the free admiſſion of air, their earthy part may be obtained in a much purer ſtate, in quantity about one half of the weight of the original horn. The calcination may be performed in a potter's furnace; or by ſtrati-

Cornu cervi uſtum *Ph. Lond.*

fying the horns with charcoal in any common furnace or ſtove, and ſetting the whole on fire together: the horns, after the burning, retain their figure, and a conſiderable degree of hardneſs, ſo as to be eaſily ſeparable from the aſhes into which the vegetable coal is reduced. The horns remaining after the diſtillation of the volatile ſalt are as proper for this uſe as freſh ones.

The pure earth of hartſhorn differs from that of coral and the teſtacea, in not being convertible into quicklime; and agrees with them, in being diſſoluble by the vegetable, nitrous, and marine acids, and in being precipitated from theſe acids on the addition of the vitriolic. The earth of the horns, and of the bones alſo, of other animals, appears to be of the ſame nature with that of hartſhorn. How far this ſpecies of earth differs from the others in its medicinal effects, is little known. It is cuſtomary, in acute diſeaſes accompanied with a looſeneſs, to impregnate the common drink with the calcined hartſhorn levigated into an impalpable powder, on a ſuppoſition of its acting as a mild reſtringent: ſolutions of it in vegetable acids are apparently reſtringent, as they diſcover a degree of auſterity to the taſte; but the pure earth is inſipid, ſo that probably it tends to reſtrain fluxes only in conſequence of its uniting with acid humours in the firſt paſſages. Hoffman reports, that this earth, when combined with acids, is more diſpoſed, than the other abſorbents, to promote perſpiration.

COSTUS.

COSTUS dulcis officinarum C. B. Coſtus arabicus Linn. Costus: a root, brought from the

Eaſt Indies, about the ſize of the finger, of a pale greyiſh or whitiſh colour on the outſide, and yellow within. An *Arabian*, a *bitter*, and a *ſweet* coſtus were formerly diſtinguiſhed in the ſhops: whether they were, as ſome ſuſpect, the roots of different plants, or, as others, of one and the ſame plant in different ſtates, does not fully appear. At preſent, only one ſort is met with, and this but rarely.

THIS root has been recommended as a ſtomachic, uterine, diaphoretic, and diuretic. The editor of the Wirtemberg pharmacopœia obſerves, that it impregnates the urine, like the turpentines, with a violet ſmell. The ſmell of the root itſelf approaches to that of violets or Florence orris: its taſte is warm and bitteriſh. Both the ſmell and taſte are confined chiefly to the brittle cortical part, the internal tough woody matter having very little of either.

Decoctions of coſtus in water are of a browniſh colour, a bitter taſte, and leſs grateful ſmell than the root in ſubſtance: in evaporation they diffuſe a very diſagreeable ſcent: the inſpiſſated extract is moderately bitter, of ſcarcely any particular flavour, in quantity amounting to no leſs than two thirds the weight of the root; in keeping, it ſoon grows mouldy, and duſty on the ſurface. The ſpirituous tincture is of a bright yellow colour, a bitter aromatic taſte, and a more agreeable ſmell than the watery decoction; inſpiſſated, it yields a very warm pungent, bitter extract, of an aromatic flavour, leſs grateful than that of the coſtus itſelf, in quantity not exceeding one ninth the weight of the root.

CRETA.

CRETA Ph. Lond. & Edinb. CHALK: a pure white mineral calcareous earth, met with in moſt parts of the world, of various degrees of hardneſs. The ſofter maſſes, included in ſea ſhells (which are commonly in chalk pits) called from their figure chalk eggs, are by many preferred to the others for medicinal uſe.

There are innumerable concretes in the mineral kingdom, of the ſame general nature with chalk; or which conſiſt chiefly, or wholly, of the ſame earth, formed into maſſes, which differ from one another little otherwiſe than in their external appearance, compactneſs, or texture. Such are the *limeſtones*; the *marbles*; ſome of the *marles*; the fine earth called *agaricus mineralis*, *medulla ſaxi*, or *lac lunæ*: the tranſparent cryſtalline concretes called *ſpars*; moſt of the *petrefactions*; and moſt of the *ſtalactitæ*, or the earthy matter, which, in its concretions from waters, incruſtates the ſides of caverns, or hangs in icicles from the tops. Many of theſe bodies were formerly introduced into medicine, from an erroneous ſuppoſition of their poſſeſſing diſtinct qualities: chalk, one of the pureſt of them, is the only one now retained in practice; nor would the art ſuffer any detriment, if a like reduction was made in the analogous bodies furniſhed by the animal kingdom.

The diſtinguiſhing characters of this earth, in all its forms, are, its not diſſolving in the vitriolic acid, though readily diſſolving in all the others; its being precipitated by the vitriolic acid from its ſolutions in the others, and being thus changed into a ſelenites; its being convertible, by calcination with a ſtrong fire, into quicklime; and its melting eaſily, with certain vitrefactive fluxes, as borax, into a tranſparent glaſs. In this laſt property it differs from the calcareous animal earths; which appear to be unvitreſcible, communicating, to a large proportion of vitreous matters, an opake milkineſs.

Pure chalk is a very uſeful abſorbent in cardialgic and other complaints from acidities in the firſt paſſages. For this purpoſe it is formed, in the ſhops, into troches, with ſugar and a little nutmeg, and generally with the addition of ſome of the other abſorbent earths, which add nothing to its virtue; and into juleps, by mixing the chalk, levigated into a ſubtile powder, with water, in the proportion of half an ounce to a pint; with the addition of three drams of ſugar, and one ounce of gum-arabic, to give ſome conſiſtence to the liquor, ſo as to enable it to keep the powder ſuſpended. *The Edinburgh college have now directed a powder, conſiſting of four ounces of prepared chalk, with a dram and a half of nutmeg and a dram of cinnamon, to ſupply the place of the cardialgic troches. The compound aſtringent powders of the London pharmacopœia which formerly had their name from bole, are now improved by the ſubſtitution of chalk to that ſubſtance, and have in conſequence changed their name. In theſe, the chalk conſtitutes ſomewhat leſs than half the weight.

Miſtura cretacea *Ph. Lond.*

Pulv. Cretaceus *Ph. Ed.*

Pulv. e Creta comp. ſine & cum Opio *Ph. Lond.*

When chalk is combined with ſuch acids, as may be deemed moſt analogous to thoſe which are preternaturally generated in the human ſtomach, as ſour milk and ſour vegetable liquors; the compounds prove ſomewhat more auſtere than thoſe reſulting from the coalition of the ſame acids with the animal abſorbents: hence chalk, given in caſes of acidities, is generally obſerved to bind the belly more; and thus to prove more injurious in coſtive habits, and more beneficial in fluxes: two drams given in a doſe, and repeated at proper intervals, have often effected a ſpeedy cure both in ſimple diarrhoeæ and in dyſenteries. But that it has any aſtringent power, as many have ſuppoſed, independently of its combination with acids, or in diſorders where there are no acid juices in the firſt paſſages to diſſolve it, is not ſo clear: the ſenſe of aſtringency, which the chalk in ſubſtance produces in the mouth, appears to proceed, like that of the bolar earths, only from its adhering to the part and imbibing its moiſture.

CROCUS.

CROCUS Ph. Lond. & Edinb. Crocus ſativus C. B. & Linn. Crocus autumnalis ſativus Moriſon. hiſt. SAFFRON: a bulbous-rooted plant, with narrow graſs-like leaves which have a white line running along the middle: the ſtalk is ſhort and undivided, and bears on the top a purpliſh blue flower, deeply cut into ſix ſegments; in the middle of the flower ariſes, among the ſtamina, a whitiſh piſtil, divided at the top into three ſtigmata or fleſhy filaments, the lower part of which is ſlender and pale coloured, the upper broader, of a deep orange red, and very finely indented about the ſides: the filaments, carefully picked, moderately dried in kilns, and preſſed together into cakes, are the ſaffron of the ſhops. The plant is perennial, and flowers in autumn: the common ſpring crocuſes of our gardens are reckoned by Linnæus to be no other than varieties of it.

Saffron is cultivated in different parts of the world: that produced in our own country is greatly ſuperiour to the ſorts brought from abroad, and may be diſtinguiſhed from them by its blades being broader. It ſhould be choſen freſh, not above a year old, in cloſe cakes, neither dry nor yet very moiſt, tough and firm in tearing, of a high fiery colour, ſtaining the hands on rubbing it, and of the ſame colour within as on the outſide.

SAFFRON is a very elegant and uſeful aromatic; of a ſtrong, penetrating, diffuſive ſmell, and a warm, pungent, bitteriſh taſte. It is ſuppoſed to have a conſiderable degree of anodyne power, depending on its ſubtile odorous principle; to be more cordial and more exhilarating than almoſt any of the other aromatics, ſo as, when taken too freely, to occaſion even immoderate mirth *(a)*; to be particularly ſerviceable in diſorders of the breaſt, in female obſtructions, and hyſteric depreſſions. It tinges the urine of a high colour. The doſe is commonly from two or three grains to ten or twelve: Geoffroy ſays it may be extended with ſafety to a ſcruple and more.

Saffron gives out the whole of its virtue and colour to rectified ſpirit, proof ſpirit, wine, vinegar, and water: about three parts in four of the ſaffron are taken up by each of theſe menſtrua; and the matter which remains undiſſolved is inodorous, inſipid, and of a pale clay colour. Tinctures drawn with vinegar, or other liquors ſenſibly acid, ſoon loſe of their rich colour in keeping: the colour of the vinous

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(a) Hertodt, *Crocologïa, p.* 32. Boerhaave, *Elementa chemiæ, proceſſ.* 65.

tinctures alſo fades a little, and a part of the diſſolved ſaffron is apt to be in time thrown off: thoſe made in proof ſpirit, and in rectified ſpirit, particularly the latter, may be kept in perfection for years.

Tinct. croci *Ph. Ed.*

The Edinburgh pharmacopœia has a tincture of this kind, in which one ounce of ſaffron is macerated in fifteen ounces by weight of proof ſpirit. That of London had a vinous tincture which was uſed in making the ſyrup of ſaffron: but that is now expunged, and the ſyrup directed to be made by adding ſugar to an infuſion of an ounce of ſaffron in a pint of boiling water.

Syrup. croci *Ph. Lond.*

In diſtillation, it impregnates water ſtrongly with its flavour: if the quantity of ſaffron is large, a ſmall portion of a fragrant and very pungent eſſential oil may be collected, amounting, as is ſaid by Vogel, to about a dram and a half from ſixteen ounces. The remaining decoction, inſpiſſated, yields an extract of a high colour, in taſte unpleaſantly bitteriſh, without any thing of the diſtinguiſhing ſmell or flavour of the ſaffron.

Rectified ſpirit elevates alſo a conſiderable ſhare of its flavour, but leaves much the greateſt part concentrated in the extract. This extract, inſpiſſated only to the conſiſtence of oil, is recommended by Boerhaave as one of the higheſt cordials and exhilarants: the doſe is a few drops, which may be taken in a glaſs of rich wine. It diſſolves in wine and in water, as well as in ſpirit, and mingles alſo with oils both expreſſed and diſtilled; appearing to be a ſubſtance of a peculiar nature. The ſpirit, diſtilled from ſaffron, is ſaid to have an advantage above moſt other cordial ſpirits, of diſpoſing the patient to ſweat.

CRYSTALLUS.

ROCK CRYSTAL: a tranſparent colourleſs ſtone; of a regularly angular figure, which is generally that of an hexagonal column terminated by a pyramid of the ſame number of ſides; hard, ſo as to ſtrike fire freely with ſteel; becoming white, opake, and friable, by repeated ignition and extinction in water; not diſſoluble by any acid, either in its natural ſtate or when calcined; fuſible, with vitrefactive fluxes, into a nearly colourleſs glaſs.

Rock cryſtal, and ſome other ſtones of the ſame general nature, introduced into medicine by the credulity of former times, not yet expunged from catalogues of the materia medica, and in ſome places ſtill made ingredients in officinal compoſitions; appear, from their indiſſolubility in every known ſpecies of humid menſtruum, to be incapable of exerting any action in the human body: unleſs that by the rigidity and hardneſs, which their particles retain, however finely levigated, they may offend the ſtomach and inteſtines; or that by virtue of the calcareous earth, which they abrade plentifully from the marble inſtruments with which they are levigated, the prepared powder may act as an abſorbent.

THE colours of the *precious ſtones* appear to depend on a principle diſtinct from the ſtony matter which makes their baſis. It is ſaid, that the ſapphire, emerald, amethyſt, and cornelian, on being urged with a ſtrong fire, become colourleſs, and nearly ſimilar to common cryſtal: that the emerald, in parting with its tinging matter in the fire, emits viſible flames *(a)*: that the hyacinth and garnet melt, in a vehement fire, into a vitreous maſs, of a browniſh or blackiſh colour like that which ferrugineous calces communicate *(b)*. From theſe kinds of experiments it has by ſome been inferred, that the coloured precious ſtones, though their ſtony baſis is confeſſedly inactive, may, nevertheleſs, have ſome medicinal powers depending on the tinging metallic impregnation *(b)*. But ſurely this reaſoning does not take off the impropriety, or rather abſurdity, of uſing, as medicines, theſe coſtly concretes, from a poſſibility of their producing effects, which far cheaper ſubſtances are known to produce with certainty.

CUBEBÆ.

CUBEBÆ Pharm. Lond. & Edinb. Cubebæ vulgares C. B. Cubebs: dried berries, of an aſh brown colour, generally wrinkled, greatly reſembling pepper, but furniſhed each with a ſlender ſtalk, whence they are called by ſome *piper caudatum*. They are the fruit of an Eaſt Indian tree, of which we have no particular account, ſaid to reſemble the apple tree, and to produce its berries in cluſters.

Cubebs are a warm ſpice; of a pleaſant ſmell, and a moderately pungent taſte. Their heat and pungency are weaker than thoſe of pepper, but of the ſame kind; and reſide, like thoſe of that ſpice, not in the volatile, but in the more

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(a) Geoffroy, *Tract. de mat. med. tom.* i. *p.* 95.

(b) Pott, *Chymiſche unterſuchungen von der lithogeognoſia, p.* 45.

fixt matter. In diſtillation with water, they yield a ſmall quantity of a ponderous eſſential oil, of an agreeable and moderately ſtrong ſmell, but in taſte mild: the remaining decoction, inſpiſſated to the conſiſtence of an extract, retains a conſiderable ſhare of the warmth and pungency of the cubebs. An extract made with rectified ſpirit poſſeſſes the whole of their flavour in perfection, for even the odorous principle does not exhale or diſtill with this menſtruum: the taſte of this extract is very hot and pungent, though not near ſo much ſo as that of the ſpirituous extract of pepper.

CUCUMIS.

CUCUMBER: an annual herb, with naked monopetalous flowers divided into five ſegments, and a large juicy fruit produced under the flower. Thus far the characters of the cucumber agree with thoſe of ſome other plants, whoſe ſeeds have been commonly ranked among the officinals, and which may properly be placed together.

1. Cucumis *ſativus vulgaris C. B. Cucumis ſativus Linn.* Cucumber: with oblong fruit, often covered with little protuberances; and oblong white ſeeds.

2. Anguria citrullus *dicta C. B. Cucurbita Citrullus Linn.* Citrul: with very large, roundiſh, ſmooth hard rinded fruit; and oblong, broad, rhomboidal, blackiſh ſeeds.

3. Cucurbita *lagenaria flore albo, folio molli C. B. Cucurbita lagenaria Linn.* Gourd, bottle-gourd: with very large, thick woody rinded

fruit, bellied like a bottle; and long whitiſh ſeeds, having two angles like horns at the top.

4. Pepo *vulgaris Raii hiſt.* *Cucurbita Pepo Linn.* Common pumpion: with very large, roundiſh or oval fruit; and rhomboidal whitiſh ſeeds, having a rim or elevated line round the edges.

The cucumber and citrul are eſteemed cooling and relaxing; ſalubrious in hot bilious diſpoſitions, and where there is a tendency to inflammation; prejudicial in the oppoſite circumſtances; difficult of digeſtion, and of very little nouriſhment.

The ſeeds of all theſe plants are ſimilar in quality; and have been generally uſed promiſcuouſly, and diſtinguiſhed by the title of the greater *cold ſeeds.* They have a ſweetiſh taſte, accompanied with ſome unctuoſity, and no ſmell or particular flavour: on expreſſion, they yield a ſoft inſipid oil, of the ſame general nature with that of almonds: on trituration with water, their oil, by the mediation of the mucilaginous and farinaceous matter of the ſeed, unites with the water into an emulſion or milky liquor. Theſe emulſions have been uſed as diluents, refrigerants, and emollients, in the ſame caſes as thoſe prepared from ſweet almonds; which laſt are now almoſt univerſally preferred. The ſeeds in ſubſtance have likewiſe been made ingredients in ſome officinal emollient powders; for which purpoſes they are not well adapted, as being liable to grow ſoon mouldy and rancid in keeping, eſpecially in a powdery form: thoſe of the cucumber ſeem to be the leaſt ſubject to this inconvenience.

5. Cucumis agrestis *Pharm. Lond. Cucumis ſilveſtris aſininus dictus C. B. Momordica Elaterium Linn.* Wild cucumber: with warty, hairy, ſomewhat oval fruit, not above two inches in length: the fruit, when ripe, burſts on being touched, and throws out with violence its whitiſh juice and its black ſeeds. It is ſown annually, as all the preceding, in gardens.

All the parts of the wild cucumber are ſtrongly purgative: the fruit appears to be ſomewhat more ſo than the root, and this than the leaves. The juice that iſſues ſpontaneouſly, or by very light preſſure, on ſlitting the fruit when almoſt ripe, has an unpleaſant ſmell, and a very durable nauſeous bitter taſte: on ſtanding for a few hours, it parts into a thick matter which ſettles to the bottom, and a thin watery fluid, which floats above: this laſt may be commodiouſly drained off, after the clearer part is decanted, by means of ſtrips of woollen cloth or ſkains of cotton laid over the ſides of the veſſel. The thick fecula, dried in the ſun or any other gentle heat, is a very ſtrong, irritating, but ſlow, cathartic; and often operates likewiſe upwards. It remarkably raiſes the pulſe, and ſeems to kindle a degree of fever for a time: Liſter and Hoffman obſerve, that its effect in increaſing the pulſe is perceivable even in the extremities of the fingers. Its uſe therefore is in cold indolent phlegmatic caſes; particularly in dropſies, in which it has ſometimes been given with ſucceſs after medicines of a milder kind had proved ineffectual. Two or three grains are in general a ſufficient doſe: in ſome caſes this quantity has acted violently: in others, five grains have procured plentiful evacuation, without much uneaſineſs or diſturbance to the con-

Elaterium *Ph. Lond. & Ed.*

ſtitution. It is ſaid, that in Holland, an extract made with wine from the roots of the plant is ſubſtituted to the elaterium, and has been found to be equally efficacious and ſafe: though Boulduc *(a)* ſpeaks of an extract of this root, made probably with water, which appears to have been much weaker; the doſe being from twenty-four to thirty grains. In what kind of matter the purgative virtue of this plant reſides, has not been ſufficiently examined: according to Boulduc, ſpirit of wine has ſcarcely any action upon it: and that water is not its proper menſtruum appears from its quitting the watery juice and ſettling to the bottom.

CUPRUM.

CUPRUM Pharm. Lond. Cuprum ſive Venus Pharm. Edinb. COPPER: a reddiſh metal, nearly nine times ſpecifically heavier than water; requiring for its fuſion a ſtrong white heat, and calcining by a continuance of a weaker red heat into a dark reddiſh powder; contracting, from long expoſure to the air, a greeniſh ruſt; ſoluble in all acids and in volatile alkaline ſpirits, and exhibiting, when diſſolved, a blue or green colour, or a colour compoſed of the two. Volatile ſpirits, in particular, receive from a ſmall proportion of it a beautiful deep blue; and if added to ſolutions of it made in acids, when ſo far diluted as to appear almoſt or altogether colourleſs, change them immediately to the ſame fine colour. If a piece of bright iron be immerſed in the acid ſolutions, the acid quits the copper to attack the iron; and the copper, in its ſepa-

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(a) Hiſtoire de l' acad. roy. des ſcienc. de Paris, pour l' ann. 1719.

ration from the menſtruum, adheres to the iron, which ſoon appears covered with a cupreous coat. On theſe principles, very minute quantities of copper, diſſolved in liquors, may be readily diſcovered.

There are conſiderable mines of copper in England, Sweden, Germany, and many other parts of the world. The ores are often, wholly or in part, of beautiful blue or green colours like thoſe of the ſolutions: all the mineral ſtones, tinctured with theſe colours, are ſuppoſed to receive them from this metal. Moſt of the ores abound with ſulphur: which this metal very ſtrongly retains, and which is difficultly ſeparated by repeated calcinations and fuſions.

Pure copper, in its metallic ſtate, or calcined by fire, appears to be indiſſoluble, and of no conſiderable effect, in the bodies of animals. There are inſtances of pieces of copper having been ſwallowed, and lying long in the bowels, without ſeeming to act any otherwiſe than by their bulk or figure.

Diſſolved in the nitrous or marine acids, and cryſtallized or exſiccated by heat, it proves a ſtrong cauſtic. Theſe preparations, particularly that with the nitrous acid, were formerly ſometimes made uſe of in this intention; but have long been laid aſide, on account of their great diſpoſition to liquefy.

Combined with the vitriolic acid, or with the acids of the vegetable kingdom, or corroded by the air, it acts, when externally applied, as an efficacious detergent and a gentle eſcharotic; when taken internally, as a virulent emetic and cathartic. Some have ventured on ſmall doſes of theſe preparations, as quick emetics, for procuring immediate evacuation where poiſonous ſubſtances have been ſwallowed: but that end may ſurely be obtained by leſs dangerous means. A more particular account of theſe preparations is given under their reſpective names, *Ærugo* and *Vitriolum*.

A ſaturated ſolution of the metal in volatile ſpirits is recommended by Boerhaave in diſorders proceeding from an acrid, weak, cold, phlegmatic cauſe. He ſays, that if three drops be taken in the morning with a glaſs of mead, and the doſe doubled every day to twenty-four drops, it proves attenuating, warming, and diuretic: that by this medicine he once cured a confirmed aſcites, though in other caſes of the ſame kind it failed: that it is the only preparation of copper which does not prove emetic; and that, as it does no harm, it may be tried with ſafety *(a)*. It is probable, that this preparation differs from the preceding only in containing leſs copper, the quantity which volatile ſpirits diſſolve being extremely ſmall; and that in conſiderable doſes, it would exert the ſame virulent operation with the other ſolutions or ſoluble preparations of this metal. *A ſolid preparation of this kind made by rubbing together in a glaſs mortar two parts of blue vitriol and three of the volatile ſalt procured from ſal ammoniac, till all effervеſcence has ceaſed, and then gently drying the concrete, is ordered in the laſt Edinburgh pharmacopœia. It has frequently been given with ſucceſs in epileptic and convulſive diſorders.

Cuprum ammoniacum *Ph. Ed.*

A tincture, differing little in its cupreous impregnation from that made with volatile ſpirits, is uſed in the ſhops as an external detergent, and

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(a) Elementa chemiæ, proceſſ. 192. & *Prax. med. tom.* v. *p.* 174.

and for conſuming ſpecks or films of the eyes. This is prepared with a ſolution of ſal ammoniac in lime-water, in the proportion of a dram† or four ſcruples‡ of the ſalt to a pint of the liquor; which ſolution is tinged of a ſapphire blue colour by ſtanding for ſome days with ſome ſlips of copper or in a copper veſſel†, or by the addition of eight grains of verdigris‡.

Aq. cupri ammoniat.
† *Ph. Lond.*
Aq. ſapphirin.
‡ *Ph. Ed.*

Copper veſſels, in certain circumſtances, give a taint to almoſt all kinds of liquors, even to pure water; more eſpecially if they have not been thoroughly cleanſed from the ruſt which they contract by lying expoſed to a moiſt air: in certain circumſtances, however, they appear to reſiſt even liquors of conſiderable acidity. Moſt of the vegetable acids, ſo long as they are kept boiling in copper veſſels, have little or no action on the metal; though in a gentle heat, or in the cold, they become in a ſhort time impregnated with its ill taſte and with its pernicious qualities, corroding it chiefly at the ſurface of the liquor: if the metal is only moiſtened and expoſed to the air, it is corroded more ſpeedily; and ſooner ſtill if expoſed to the vapours of the acid. The moſt acid ſyrups are prepared by the confectioners, by boiling in copper veſſels kept perfectly clean, without receiving any hurtful impregnation; whereas the far leſs acid liquor, that riſes towards the end of long protracted diſtillations of ſimple waters, corrodes, in its paſſage through the copper head, in the form of vapour, ſo much of the metal as to prove emetic.

Braſs is a combination of copper with the metallic part of calamine, that is, with zinc, a metallic body ſtill eaſier of diſſolution than the copper itſelf. The two metals, nevertheleſs, form by their coalition a new compound, which does not ruſt in the air, or diſſolve in vegetable acids, or calcine in the fire, near ſo ſoon as either of them ſeparately.

CURCUMA.

CURCUMA Pharm. Lond. & Edinb. Curcuma radice longa Herm. hort. lugd. bat. Mani-ella kua Hort. malabar. Crocus indicus; Terra merita; Cypira. Curcuma longa Linn. TURMERIC: a ſmall tuberous knotty root, brought from the Eaſt Indies; externally greyiſh, internally of a deep lively yellow or ſaffron colour, which by age changes towards a red. Two ſorts are mentioned by authors, one longiſh, the other roundiſh: only the firſt is met with in the ſhops.

TURMERIC has a ſlight, aromatic, and not very agreeable ſmell; and a bitteriſh ſomewhat warm taſte. It readily gives out its active matter both to aqueous and ſpirituous menſtrua: to the former it communicates its own deep yellow, to the latter a fine yellowiſh red tincture. In diſtillation with water, it yields a ſmall quantity of a gold coloured eſſential oil, of a moderately ſtrong ſmell, and a pungent taſte: the remaining decoction, inſpiſſated, leaves a bitteriſh, conſiderably ſaline, maſs. Rectified ſpirit elevates little or nothing of its virtue; all the active parts of the root being left behind in the inſpiſſated extract, which is moderately warm, and bitter, and not a little nauſeous.

This root is ſaid to be in general uſe in the eaſtern countries, both for the colouring and ſeaſoning of food, and as a medicine: it is accounted one of the moſt effectual remedies in obſtructions of the viſcera and meſentery, which are there frequent; in uterine diſorders, difficulties of urine, and affections of the kidnies (a). Among us it has been employed alſo as a deobſtruent, and eſteemed by ſome a ſpecific in the jaundice: the doſe in ſubſtance is from a ſcruple to a dram; in decoction or infuſion, twice as much. It tinges the urine of a deep yellow colour.

* *CURSUTA.*

CURSUTÆ radix Pharm. Edinb. This is a foreign root, which has been uſed by ſome practitioners at Edinburgh for more than forty years. It is a ſtrong bitter, and has very much the appearance and taſte of gentian. Dr. Home, in his liſt of the materia medica, ſtiles it *Gentiana lutea ſylveſtris*; while he terms the common gentian, *Gentiana lutea ſativa.* No botanical author, however, makes this diſtinction; nor can the name of curſuta be met with in any writer that the editor has conſulted. The Edinburgh college received it on Dr. Home's recommendation; but it is little uſed there, and is not in general kept in the ſhops.

CYANUS.

CYANUS Pharm. Pariſ. Cyanus ſegetum C. B. Centaurea Cyanus Linn. BLUE BOTTLE: a greyiſh green plant, with long narrow leaves, of which the lower are deeply jagged, the upper entire, thoſe between furniſhed with one or two long perpendicular ears on each ſide towards the bottom; the ſtalk divides, near the top, into ſeveral branches, each of which is terminated by a large blue flower, conſiſting of tubulous indented floſculi ſet in a ſmooth ſcaly head; the outer floſculi are larger than the inner, and widened in the upper part like a funnel; the ſcales are ſerrated about the edges. It is annual, common in corn fields, and found in flower greateſt part of the ſummer.

(a) Bontius, *Animadverſ. in Garciam ab Orta, lib.* i. *cap.* 39.

The flowers of cyanus, haſtily dried, preſerve their colour better than moſt of the other blue flowers: they agree with the others in giving no blue tinge to ſpirit, and differ from moſt of them in giving none to water. In ſubſtance, they diſcover very little ſmell, and ſcarcely any taſte: an extract made from them by rectified ſpirit has a weak ſaline auſterity mixed with a kind of ſweetiſhneſs: an extract made by water is leſs auſtere and more manifeſtly ſaline. From hence it may be preſumed, that among the various and oppoſite virtues aſcribed to theſe flowers, the antiphlogiſtic, aperient, and diuretic ones have the beſt foundation; though even theſe they appear to poſſeſs only in a low degree.

The varieties of this plant, produced by culture in gardens, are not materially different in quality from the wild ſort. Another ſpecies, of oriental origin, *cyanus orientalis major moſchatus flore purpureo & albo Moriſ. hiſt. ox. Centaurea moſchata Linn.* commonly called ſultan flower or ſweet ſultan, promiſes, by its muſky fragrance, to have ſome claim to the cordial and antiſpaſmodic virtues, which have been groundleſsly aſcribed to our indigenous cyanus.

CYDONIA.

CYDONIA MALUS Pharm. Lond. & Edinb. Cotonea malus J. B. Mala cotonea majora & minora

nora C. B. Pyrus Cydonea Linn. Quince: a low tree, with uncut leaves, bearing a fruit like a pear; a native of the rocky banks of the Danube, and common in our gardens.

This fruit has a pleaſant ſtrong ſmell, and a very auſtere acid taſte. Its expreſſed juice, taken in little quantities, as a ſpoonful or two, proves a mild, cooling, reſtringent ſtomachic; of good ſervice in nauſea, vomitings, nidorous eructations, and ſome kinds of alvine fluxes. A grateful and lightly cordial reſtringent ſyrup is prepared, by digeſting three pints of the depurated juice with a dram of cinnamon, half a dram of ginger, and half a dram of cloves, on warm aſhes, for ſix hours, then adding a pint of red port, and diſſolving in the ſtrained liquor nine pounds of ſugar. An uſeful reſtringent jelly or marmalade is made, by boiling the juice with fine ſugar to a due conſiſtence, in the proportion commonly of three pints to a pound. If the quinces, after they are gathered, be kept for ſome time in a dry airy place, their juice will become richer by the diſſipation of a part of their aqueous humidity.

Syrup. cydoniorum.

The ſeeds of quinces abound with a mucilaginous ſubſtance, which they readily give out to boiling water. A dram, boiled in ſix ounces of water by meaſure, renders the liquor ſlimy, almoſt like the white of an egg: two drams make it quite thick. On inſpiſſating the decoctions, the quantity of dry extract amounts to about half the weight of the ſeeds. This mucilage has a ſlight agreeable ſmell, and a ſweetiſh taſte, more grateful than that of the other common mucilages. In keeping, in its ſoft ſtate, it ſoon grows mouldy.

Mucilago ſem. cydoni. *Ph. Lond.*

CYMINUM.

CUMINUM Pharm. Lond. & Edinb. Cuminum ſemine longiore C. B. Cuminum Cyminum Linn. CUMMIN: an umbelliferous plant, reſembling fennel, but much ſmaller; producing longiſh, ſlender, plano-convex ſeeds, of a browniſh colour with yellowiſh ſtriæ. It is annual; a native of Egypt and Ethiopia; and cultivated in the iſlands of Sicily and Malta, from whence we are ſupplied with the ſeeds.

CUMMIN SEEDS have a btteriſh warm taſte, accompanied with an aromatic flavour, but not agreeable. They give out great part of their ſmell by infuſion in water, but very little of their taſte: in diſtillation with water, a pungent oil ariſes, of a ſtrong ungrateful flavour like that of the ſeeds: the decoction, inſpiſſated, leaves a weakly roughiſh bitteriſh extract. Rectified ſpirit takes up the whole virtues of the cummin by infuſion, and leaves them nearly uninjured in evaporation: the inſpiſſated maſs is very warm, moderately pungent, and not a little nauſeous.

Theſe ſeeds are accounted good carminatives and ſtomachics; but have now, in great meaſure, given place, for theſe purpoſes, to medicines of a more grateful kind. Their principal uſe is in external applications, as a warm diſcutient and antiſeptic: the college of London have given a compound plaſter and cataplaſm of cummin.

CYNOGLOSSUM.

CYNOGLOSSUM Pharm. Pariſ. Cynogloſſum majus vulgare C. B. Lingua canina. Cynogloſſum officinale

officinale Linn. Hounds tongue: a biennial plant; producing, the firſt year, large, ſoft, tongue-ſhaped, long-pointed leaves; the ſecond year, a thick, branched ſtalk, with narrower and ſhorter-pointed leaves joined to it without pedicles; bearing, on the tops of the branches, dark purpliſh flowers, each of which is divided into five ſegments, and followed by four flat rough ſeeds: the root is oblong, thick, of a dark brown or blackiſh colour on the outſide, and white within. It is found wild in ſhady lanes and uncultivated grounds, and flowers in June.

The roots of hounds tongue are very juicy, and liable to grow mouldy in drying. Such as are produced in moiſt grounds have, when freſh, a rank, though not very ſtrong ſmell, like that of the narcotic plants, which in drying is in good meaſure diſſipated: thoſe, which are the produce of dry grounds, have ſcarcely any ſmell *(a)*. On the organs of taſte, they make no great impreſſion.

The medical effects of theſe roots are ſomewhat doubtful. It has been generally ſuppoſed that they are narcotic; by ſome, that they are virulently ſo. The argument for their innocence *(b)*, from the frequent and ſafe uſe of a pill, to which they ſtill give name in foreign pharmacopœias, appears unfair; the quantity of the hounds tongue root, in a doſe of that opiate pill, being only about a grain; whereas the root by itſelf is ordered, in decoction, to the quantity of an ounce, in catarrhs, coughs, diarrhœas, dyſenteries, and hemorrhagies.

(a) Hermann, *Cynoſura mat. med. edit. Boecler. tom.* i. *p.* 178.

(b) Geoffroy, *Mat. med.* iii. 395. Ray, *Hiſt. plant.* i. 490.

The leaves of the plant are ſuppoſed to be of the ſame quality with the roots: to the ſmell, they are ſtronger and more diſagreeable. Fuller reports, that he has uſed a ſyrup of the juice a multitude of times, and could never find it to cauſe ſleep, or to be in the leaſt virulent; and that he had often experienced it to be a great remedy, ſecond to none, againſt hot, ſharp, thin, catarrhous humours, and a cough occaſioned thereby. Neither the leaves nor the roots are ever made uſe of in practice; and the colleges, both of London and Edinburgh, have now rejected the plant from their catalogue of officinals; all the good effects, which the accounts of thoſe who have recommended it afford grounds to expect from it, being obtainable, without ſuſpicion of malignity, from the products of the poppy.

CYPERUS.

CYPERUS: a plant with graſs-like leaves, and three-ſquare ſtalks, branched at top, bearing tufts of ſmall imperfect flowers, each of which is followed by a naked triangular ſeed. It is perennial.

1. CYPERUS LONGUS *Pharm. Pariſ. & Linn. Cyperus odoratus radice longa ſive cyperus officinarum C. B.* Cyperus or Engliſh galangal: with a long ſlender root, crooked and full of knots, of a dark brown or blackiſh colour on the outſide, and whitiſh within. It grows wild in marſhy places in ſome parts of England: the ſhops have been uſually ſupplied from Italy and

France, with dried roots, not ſuperiour to thoſe which are produced in our own country.

Cyperus root has a pleaſant aromatic ſmell, and a warm bitteriſh taſte; both which it imparts almoſt totally to watery and to ſpirituous menſtrua: it tinges the former of a dark reddiſh brown colour, the latter of a bright reddiſh yellow. In diſtillation, it impregnates water with its grateful ſmell; but yields, at leaſt when only moderate quantities are ſubmitted to the operation, no ſeparable oil: rectified ſpirit carries off likewiſe, in evaporation or diſtillation, a great part of its odorous matter. The watery extract is moderately bitter, ſlightly pungent, and ſubaſtringent: the ſpirituous is in taſte bitterer and warmer; but has not much ſmell, any more than the watery extract. The quantity of both extracts is very nearly alike, amounting to about one fourth of the weight of the root.

2. Cyperus rotundus *Pharm. Pariſ. & Linn. Cyperus rotundus orientalis major C. B.* Round cyperus: with ſeveral roundiſh roots, about the ſize and ſhape of an olive, connected by fibres, rough and ruſty-coloured on the outſide, whitiſh or yellowiſh within. It is a native of the Eaſt Indies, from whence the roots are ſometimes, but rarely, brought to us. It is ſaid to grow wild alſo in France.

This root has the ſame kind of ſmell and taſte, and nearly in the ſame degree, as the foregoing. It differs, according to Cartheuſer's examination of it, in giving a gold yellow tincture to water, in yielding a little more extract, one third its weight, both with water and ſpirit;

and in the ſpirituous extract being more tenacious or reſinous.

DAUCUS.

CARROT: an umbelliferous plant, with finely divided leaves; producing pale coloured, hairy, ſtriated, ſomewhat oval, plano-convex ſeeds: the entire umbel, and each of its ſubdiviſions, have a circle of little leaves at their origin: the petala are unequal and heart-ſhaped.

1. Daucus creticus. *Daucus foliis fœniculi tenuiſſimis C. B. Athamanta cretenſis Linn.* Candy carrot: with white flowers, flat umbels; and oblong ſeeds, ſwelled or bellied in the middle, and pointed at one end. It is perennial, a native of the Levant and the mountains of Switzerland, and cultivated in ſome of our gardens. The ſeeds have been generally brought to us from the iſle of Candy.

The ſeeds of the candy carrot have a light aromatic ſmell, and a moderately warm biting taſte. They have been occaſionally employed as carminatives, and ſuppoſed likewiſe to be diuretic and emmenagogue: at preſent they are little otherwiſe made uſe of than as ingredients in mithridate and theriaca.

Water, digeſted on the ſeeds, becomes impregnated with their ſmell, but takes up very little of their taſte: in diſtillation or evaporation, it elevates the whole of their ſmell and aromatic warmth, leaving a weakly bitteriſh mucilaginous extract: on diſtilling large quantities, a ſmall portion of a yellowiſh eſſential oil is obtained, of a moderately pungent taſte, and ſmelling ſtrongly of the daucus. Rectified ſpirit takes up the whole of their virtue by digeſtion, and elevates little in diſtillation: the remaining extract ſmells weakly, and taſtes ſtrongly of the ſeeds. The colour both of the tincture and extract made with ſpirit, is a bright yellow; of thoſe with water, browniſh: the quantity of ſpirituous extract is about one half of the watery.

2. DAUCUS SILVESTRIS *Pharm. Lond. & Edinb. Staphylinus. Paſtinaca ſilveſtris tenuifolia dioſcoridis vel daucus officinarum C. B. Daucus Carota Linn.* Wild carrot, or birdsneſt, ſo called from the appearance of the umbels, which cloſe and form a roundiſh cavity in the middle after the flowers have fallen: one or more of the inner flowers are commonly of a deep red colour, and ſeveral of the others red in part: the ſeeds are ſmaller, ſhorter and rounder than thoſe of the preceding. It is biennial, common in uncultivated grounds, and flowers in June.

THE ſeeds of the wild carrot are ſimilar in ſmell and taſte to thoſe of the *daucus creticus*, but weaker. The eſſential oils obtained from the two are nearly alike in quality, but ſomewhat different in quantity, the wild yielding a little leſs than the other. The ſpirituous extract of the wild is ſomewhat leſs pungent than that of the candy ſort. Malt liquors, fermented with theſe ſeeds, receive from them an agreeable flavour ſomewhat reſembling that of lemon peel, and are ſuppoſed to become uſeful diuretic drinks in cachectic and ſcorbutic diſorders. * Infuſions of them in water, in the proportion of three ſpoonfuls of the ſeed to a pint of boiling water, are ſaid to have done great ſervice in calculous caſes, and to give ſpeedy relief in ſtrangury (a). In the ſhops they have frequently ſupplied the place of the *daucus creticus*, and been themſelves ſupplied by the ſeeds of the garden carrot, which are much weaker in aromatic warmth than either. The garden and wild carrot are reckoned by botaniſts the ſame ſpecies of plant, their differences proceeding only from culture.

*A poultice of the root of garden carrot has been ſucceſsfully uſed to cancerous and phagædenic ulcers, the fœtor of which it has not failed very ſpeedily to remove, and generally with a great amendment of the ſtate of the ſore. Some have been brought to cicatriſe by its uſe ſolely. The method of making the cataplaſm is, to grate the carrots, and mix them with as much water as is neceſſary. The application is to be renewed two or three times a day. It is found to be moſt efficacious when the carrots are freſh and juicy. This remedy was recommended by Mr. Soultzer in a letter in a Magazine; and ſome caſes of its efficacy were afterwards publiſhed in the 4th Vol. of the *London Medical Obſervations and Inquiries.*

A marmalade of carrots has alſo been propoſed as an addition to the ſtock of ſhip's proviſions, for preventing the ſcurvy.

DENS LEONIS.

TARAXACUM Pharm. Lond. & Edinb. Dens leonis latiore folio, & anguſtiore folio C. B. Leontodon Taraxacum Linn. DANDELION: a low plant, with long, narrow, deeply indented or jagged leaves, lying on the ground; among which ariſes a ſingle, naked, hollow pedicle;

(a) *Gent. Mag.* 1766, 175, and 1771, 409.

bearing a large yellow floſculous flower, ſet in a double cup, the outermoſt of which conſiſts of ſeveral little oblong leaves turned downwards: the flower is followed by ſmall ſeeds, covered with a tuft of long down: the root is oblong, ſlender, yellowiſh or browniſh on the outſide, and white within. It is perennial, common in uncultivated grounds, and flowers from April to the end of ſummer.

The roots, leaves, and flower-ſtalks of dandelion abound with a bitteriſh milky juice, of no ſmell or particular flavour. They promiſe to be medicines of no inconſiderable efficacy in ſundry chronical diſorders, as mild detergents and aperients, ſimilar to the *cichoreum ſilveſtre*, but ſtronger. Boerhaave had a high opinion of this and the other lacteſcent plants; and eſteems them capable, if duly continued, of reſolving very obſtinate coagulations and obſtructions of the viſcera. Their more immediate ſenſible operation is, to looſen the belly, promote the urinary diſcharge, and render the water high coloured, without exciting any preternatural heat. * Bergius affirms that he has frequently ſucceeded in reſolving ſcirrhi of the liver, by the long continued uſe of a decoction of dandelion root and ſorrel leaves in whey or water, with the addition of yolk of egg; at the ſame time giving cream of tartar. This method alſo ſucceeded in the ſtone of the gall-bladder, and aſcites (*a*).

The expreſſed juice of the plant has been taken to the quantity of a quarter of a pint or more, three or four times a day: it ſeems to loſe nothing of its virtue in being gently in-

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(*a*) *Mat. med.* 648.

ſpiſſated, to the conſiſtence of an extract; which is moderately and not unpleaſantly bitter, with ſome degree of ſweetiſhneſs. The dried roots, which are ſtronger in taſte than the leaves, give out their virtues both to water and rectified ſpirit; and tinge the former of a brown, the latter of a yellow colour. The tinctures and infuſions, gently inſpiſſated, differ little from the inſpiſſated juice; except that the watery extract is rather weaker; and that the ſpirituous, which is in ſmaller quantity, has a ſtronger bitter taſte, and diſcovers alſo a ſlight aſtringency. Cartheuſer ſays, that the watery extract amounts to one fourth, the ſpirituous only to one eighth the weight of the root.

Neither the plant in ſubſtance, nor its preparations, bear keeping well: after the dried root had lain about a twelvemonth, its bitterneſs was wholly loſt, and only a ſlight ſweetiſhneſs remained: an extract made from the freſh root, inſpiſſated to dryneſs, and kept for the ſame length of time, ſuffered nearly the ſame change.

DICTAMNUS.

DICTAMNUS ALBUS Pharm. Edinb. & Linn. Dictamnus albus vulgo ſive fraxinella C. B. White or Bastard dittany: a plant with oval acuminated leaves, like thoſe of the aſh tree, but ſmaller and more juicy, ſet in pairs on a middle rib, which is terminated by an odd one: on the tops of the ſtalks ſtand elegant long ſpikes of irregular white or purpliſh flowers, followed each by five pods full of ſhining black ſeeds. It is perennial, and grows wild in the mountainous parts of France, Italy, and Germany; from whence the white cortical part of the root, freed from the fibres and pith, is ſometimes brought to us, dried, and rolled up in the form of quills.

The herb has a ſtrong ſmell, of an unpleaſant reſinous or bituminous kind: on the tops of the ſtalks, and the flower cups, the microſcope diſcovers innumerable little veſicles, filled with an eſſential oil, the ſource of its ſtrong ſcent. It is ſaid, that on the approach of a candle, in very hot dry weather, its effluvia take fire.

The root, when freſh, has a moderately ſtrong, not diſagreeable ſmell; as met with in the ſhops, it has ſcarcely any. To the taſte it diſcovers a pretty ſtrong, and very durable, bitterneſs; which is taken up both by watery and ſpirituous menſtrua, and on inſpiſſating the filtered tinctures, remains entire in the extracts: the aqueous extract is in much larger quantity than the ſpirituous, and proportionably weaker in taſte. This root has been recommended as a ſtomachic, anthelmintic, and as an aperient in uterine obſtructions; but is at preſent very rarely made uſe of. * Dr. Stœrck has publiſhed ſome caſes in which the root of white dittany, was given with good effect in epileptic fits, melancholy, intermittent fevers, worms, and female obſtructions. It was given either in powder in the doſe of a ſcruple or half a dram, or in tincture.

Dictamnus Creticus *C. B. Origanum creticum latifolium tomentoſum Tourn. Origanum Dictamnus Linn.* Dittany of Crete: a ſmall, ſhrubby, branched plant; with ſquare ſtalks; roundiſh leaves about an inch in length, covered with a thick white down, ſet in pairs at the joints; and purpliſh labiated flowers, in looſe ſcaly heads or ſpikes, drooping downwards. It is perennial, a native of ſtony grounds in Greece and the iſland of Candy, and bears the ordinary winters of our own climate. The ſhops are generally ſupplied from Italy, with the leaves tied up in bundles, which are often damaged or decayed, and at beſt not ſuperiour to thoſe of our own growth: they have now and then pieces of the flowery heads among them, but oftener ſtalks, and different foreign matters.

The leaves of dittany of Crete have been chiefly recommended as emmenagogue, alexipharmac, and vulnerary. They are apparently, when in perfection, a very warm aromatic; of an agreeable ſmell, and a hot biting taſte, reſembling that of the *thymus citratus*, but ſtronger and more pungent. They impart their virtues both to water and rectified ſpirit; and tinge the former of a yellowiſh, the latter of a green colour. Diſtilled with water, they give over a moderately ſtrong impregnation to the aqueous fluid; from which, if the quantity of dittany be large, there ſeparates, as Neumann obſerves, a ſmall portion of a yellowiſh eſſential oil, of a highly pungent aromatic taſte and ſmell, and which congeals in the cold into the appearance of camphor: the remaining decoction, inſpiſſated, leaves a bitteriſh, diſagreeable maſs, totally diveſted of the warmth and flavour of the herb. Rectified ſpirit, diſtilled off from the tincture made in that menſtruum, brings over little or nothing of the virtue of the dittany: the ſpirituous extract is a tolerably grateful and very hot pungent aromatic.

DIGITALIS.

DIGITALIS Pharm. Lond. & Pariſ. Digitalis purpurea Ph. Edinb. & Linn. Digitalis purpurea folio aſpero C. B. Foxglove: a ſomewhat hairy plant; with oblong, acuminated, ſerrated leaves; and a thick, angular, hollow ſtalk, on which numerous purple tubulous flowers, reſembled to the finger of a glove, hang downwards, in a row along one ſide, each on a ſhort pedicle: the flower is followed by an oblong pointed capſule, full of ſmall angular ſeeds. It is biennial; grows wild in woods and on heaths; and puts forth in June or July its elegant flowers, which often continue a month or longer. It is obſervable of this plant, that it grows only on gravelly ſoils; rarely or never on thoſe where there are ſtrata of calcareous earths or ſtones underneath.

The leaves of foxglove have a bitteriſh very nauſeous taſte; which they communicate both to watery and ſpirituous menſtrua. They have been ſtrongly recommended in epileptic diſorders: Parkinſon relates, that after two or three fits had been ſuffered every month for twenty-ſix years, a cure was obtained by taking twice a week a decoction made in ale, of two handfuls of foxglove leaves with four ounces of polypody of the oak. The operation of this medicine, or of the foxglove by itſelf, is by ſtool and vomit; and appears, from the accounts given of it by authors, to be ſo violent, as to afford ſufficient foundation for the preſent diſuſe of the plant *(a)*.

Externally,

(a) Boerhaave judges it to be of a poiſonous nature, and ſays it is ſo acrid as to exulcerate the mouth, fauces, œſo-

Externally, the leaves and flowers have been employed, with greater ſafety, and ſometimes, as is ſaid, with ſucceſs, in cataplaſms and unguents for ill-conditioned ulcers.

* This plant, about the year 1785, was brought greatly into the notice of the faculty. In the third volume of the *Medical Tranſactions* was printed, " An account of the ſucceſsful uſe of foxglove in ſome dropſies, and in the pulmonary conſumption, by Eraſmus Darwin M. D." to this is ſubjoined an *appendix*, by Sir George Baker. A pamphlet was likewiſe about the ſame time publiſhed by Dr. Withering on the medical uſes of the foxglove. From theſe and other later accounts it appears, that the Digitalis poſſeſſes uncommon powers as a diuretic, and a promoter of abſorption from the cavities of the body. It is at the ſame time ſtrongly ſedative, cauſing a moſt remarkable, and ſometimes alarming, retardation of the motion of the heart. A moſt diſtreſſing nauſea and ſickneſs is the uſual forerunner or attendant of its diuretic action, which renders it neceſſary to ſuſpend its uſe. The mode of exhibition which Dr. Darwin chiefly employed was that of a decoction, in the proportion of four ounces of the freſh leaves boiled in two pints of water to one,

phagus and ſtomach. *Hiſt. plant. Lugd. Bat. p.* 308. & *Haller Stirp. Helvet. p.* 617. Dr. Alſton, on the other hand, ranks it among thoſe indigenous vegetables, " which, " though now diſregarded, are medicines of great virtue, " and ſcarcely inferiour to any that the Indies afford." *Index medicamentorum ſimplicium, præfat. p.* 5. For my own part, I have had no experience of this plant uſed as a medicine; and, in regard to the taſte, little can be judged, from that quality, of the virtues of ſubſtances of this kind: the taſte of the digitalis is ſtrong and nauſeous, but not near ſo acrid or pungent as that of many vegetables which are taken with great ſafety.

one, adding to the ſtrained liquor, two ounces of vinous ſpirit. Of this, half an ounce was generally given early in the morning, and repeated every hour till ſickneſs or ſome other diſagreeable ſenſation was induced. This was in dropſical caſes; but in conſumptions and ſcrofulous ulcers, where a more gradual action was deſired, half an ounce of the decoction was adminiſtered twice a day for ſome weeks. Dr. Withering ſeems to prefer the powder of the dried leaves; and of this, in dropſies, he confines himſelf to very ſmall doſes, ſuch as from one to three grains twice a day. Sir George Baker has given a curious hiſtory of the uſe of this medicine, by which it appears that phyſicians have at different times thought very variouſly concerning it; however, it ſeems now ſufficiently proved to be capable of being rendered a ſafe, and in ſome caſes, a very efficacious remedy. Accordingly, both colleges have in their laſt editions admitted it into their catalogues.

*DOLICHOS.

DOLICHOS Pharm. Edinb. Dolichos pruriens Linn. Cacara pruritus Rumph. Amb. STIZOLOBIUM, Browne. Couhage, or Cow-itch. *Cadjuct, Bengalis.*

This is an herbaceous plant, of the papilionaceous tribe, growing in the Eaſt and Weſt Indies. It bears pods, denſely covered with ſharp hairs, which have the property of penetrating the ſkin, and cauſing a moſt troubleſome itching. This quality, with us, is only employed in performing miſchievous tricks; but in the Weſt Indies, the cow-itch is given internally as a very efficacious anthelmintic. The moſt particular account of the uſe of this remedy is contained in Mr. Bancroft's *Hiſt. of Guiana,* and it is confirmed by a letter in the *Medical Comment.* Vol. II. p. 82.

The manner in which it is employed, is to mix the hairy matter ſcraped off from the pods, with ſyrup or melaſſes, into a thin electuary, of which a tea-ſpoonful is given to a child two or three years old, and double the quantity to an adult. The doſe is exhibited in the morning, faſting, for three ſucceſſive days, after which a doſe of rhubarb is given. Its effects are repreſented as remarkably powerful and certain, without the leaſt dangerous conſequence. The ſpiculæ ſeem by their mechanical action either to excite the periſtaltic motion of the inteſtines, or to irritate and annoy the worms themſelves. Neither a tincture nor decoction of the cow-itch were found to poſſeſs the leaſt anthelmintic power.

A particular botanical deſcription of the plant by Mr. Kerr is given in the *Medical Comment.* Vol. II. p. 202.

Mr. Chamberlaine, ſurgeon, of London, publiſhed *A practical Treatiſe on the Efficacy of Stizolobium or Couhage, internally adminiſtered, in Diſeaſes occaſioned by Worms,* of which the fourth edition is dated 1785. In this, he confirms by ſeveral caſes the efficacy of this remedy, and gives directions for its exhibition. Mr. Chamberlaine has lately favoured me with a letter, in which he ſays, "that he can add from the moſt certain proofs, that the couhage is as deleterious to both the tape worm and aſcarides, as to the common round worms, or teretes."

DORONICUM.

LEOPARDS BANE: a hairy plant, with uncut leaves, and yellow radiated diſcous flowers, which ſtand ſolitary upon long pedicles on the tops of the ſtalks and branches, and are followed by ſmall ſeeds winged with down: the lower leaves have long pedicles, thoſe which grow on the ſtalks have none. It is perennial.

1. DORONICUM *ſive Aliſma & Arnica germanorum Pharm. Pariſ. Arnica Pharm. Lond. & Edinb. Doronicum plantaginis folio alterum C. B. Arnica montana Linn.* German leopards bane: with oval-pointed, ribbed leaves, like thoſe of plantane, ſet in pairs upon the ſtalk; and oblong roots. It is a native of the mountainous parts of Germany, and flowers throughout the ſummer.

THE leaves and flowers of this plant have a penetrating bitteriſh taſte, and emit, when bruiſed, a light pungent ſmell, which provokes ſneezing. Both water and rectified ſpirit extract their virtues by infuſion, and carry off a conſiderable ſhare of them in evaporation. The roots are more of an aromatic nature than the other parts, and their active matter ſomewhat leſs volatile.

This plant has been greatly eſteemed in different parts of Germany, as a ſpecific for reſolving coagulated blood occaſioned by falls or bruiſes; from its efficacy in which intentions, it received the title of *lapſorum panacea:* the doſe is an infuſion of one or two pugils of the leaves, or flowers, or both, and in ſome caſes of the roots. It is ſaid, that ſoon after the taking of this medicine, a great pain is felt about the affected part, and generally a cardialgic anxiety of the ſtomach, with nauſea, reaching, and gripes, and ſometimes extreme difficulty of breathing: that theſe ſymptoms are alleviated a little by walking about, and may be removed, if they ſhould be very alarming, by venæſection: that in a ſhort time, they terminate ſpontaneouſly in a copious diſcharge of urine, or in a profuſe ſweat, and ſometimes in vomiting or purging (*a*). This herb is recommended likewiſe, in conſequence of its ſuppoſed reſolvent power, in ſundry obſtinate chronical diſorders. It appears, however, to be much too violent in its operation for general uſe, unleſs repeated ſmall doſes ſhould be accompanied with the good effects, without the diſturbance, which a full doſe is ſaid to produce. Simon Paulli ſuſpects, that it is made an ingredient in the malt liquors uſed in ſome places, by the common people, againſt bruiſes and other diſorders.

* In a diſſertation on the virtues of the flowers of arnica, written by Dr. Collin of Vienna, a variety of caſes are related of their good effects in paralytic diſorders, amauroſis, and convulſive and ſpaſmodic caſes. An infuſion or decoction of the flowers was uſed in the proportion of from one to four drams, to the pint of liquid. It generally occaſioned pain in the affected parts, but no other diſagreeable conſequences of its uſe are mentioned.

(*a*) Tabernæmontanus, *Herbar. lib.* ii. *ſect.* i. *cap.* xxii. *p.* 714. & *ſect.* xi. *p.* 116. Fehr, *Eph. nat. curioſ. dec.* i. *ann.* ix & x. *obſ.* 2. Gohl, *Act. med. Berolinenſ. vol.* i. *n.* 4. *p.* 46. De la Marche, *Diſſert. de arnicæ veræ uſu.*

2. Doronicum romanum: *Doronicum radice ſcorpii C. B. Doronicum graphoy dictum J. B. Aconitum pardalianches minus quod falſo doronicum vocant Matth. Doronicum pardalianches Linn.* Roman leopards bane: with obtuſe heart-ſhaped leaves ſet alternately on the ſtalk, and ſlender knotty roots, ſuppoſed to reſemble the ſcorpion's tail. It is a native of the Alps, cultivated in ſome of our gardens, and flowers in June or July.

The root of the Roman leopards bane has a ſweetiſh ſomewhat aſtringent taſte, accompanied with a weak aromatic flavour. Its medicinal qualities were formerly the ſubject of a conſiderable diſpute; ſome affirming it to be poiſonous, and others ſalutary. Geſner relates, that though it poiſons dogs, he had himſelf many times eaten the herb as a grateful aromatic, and the roots alſo both freſh and dry, without perceiving any ill effect from them: that he had given the roots, with advantage, in vertiginous, and epileptic caſes: that nevertheleſs having once taken two drams of the powdered root, a ſwelling of the belly and ſtomach ſucceeded in about eight hours, accompanied by a weakneſs of the whole body; that theſe ſymptoms continued for two days, and that he was cured by a warm bath *(a)*. The Auguſtan college, after once expunging

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(a) Some have alledged, that the taking of this root occaſioned his death; *Caſp. Hoffman de medicament. officinal. lib.* ii. *cap.* iv. § 8. *Boerhaave, hiſt. plant. Lugd. Bat. p.* 151. but the epiſtle in which he mentions his being cured of the ſymptoms which the doronicum had occaſioned, is dated above five months after; and Simler, his cotemporary, who gives a particular account of his death, informs us that he was carried off by an epidemic diſeaſe.

the doronicum from their pharmacopœia, have lately received it again, and aſſure us, that experience has declared it innocent. It does not however appear, its innocence admitted, to be poſſeſſed of virtues ſufficient to recommend it to practice. Among us, it has long been diſcarded, together with all the Arabian compoſitions, as an ingredient in which (from a preſumption, not perhaps very well grounded, of its being their *duronegi)* it was originally introduced.

DRACONTIUM.

DRACUNTIUM ſive Serpentaria Pharm. Pariſ. Dracunculus polyphyllus C. B. Arum Dracunculus Linn. DRAGONS: a plant with ſmooth gloſſy leaves, ſet on long pedicles, divided into ſix or ſeven or more long narrow ſegments; and a ſingle, thick, whitiſh ſtem, elegantly variegated with reddiſh or purpliſh ſtreaks, compoſed as it were of membranes enveloping one another: on its top is a long ſheath, greeniſh on the outſide and purpliſh within, incloſing a dark-coloured piſtil, like that of arum, but larger, ſucceeded by a cluſter of red berries: the root is large, roundiſh, externally yellowiſh, internally white. It is perennial, a native of the ſouthern parts of Europe, and cultivated in our gardens: it dies to the ground early in the autumn.

THE dracontium appears to be ſimilar, in medicinal virtues, as in botanic characters, to arum; the roots and leaves being, like thoſe of that plant, extremely acrimonious, ſeeming, when ſlightly taſted, to burn or corrode the tongue, and continuing to painfully vellicate the part for many hours. The acrimonious matter is likewiſe of the ſame kind in regard to its pharmaceutical properties; being in great part diſſipated or deſtroyed by exſiccation; not being diſſoluble either by watery or ſpirituous menſtrua; not riſing with either menſtruum in diſtillation, but being deſtroyed in the proceſs; being extracted, by expreſſion, along with the watery juice; but ſoon ſeparating from the aqueous fluid, and being now found, though not a little weakened, in the fecula or ſediment. This plant might therefore be uſed in the ſame caſes as arum, but general practice employs only the latter. So far as can be judged, between ſubſtances of ſuch vehement pungency, the dracunculus is rather the ſtrongeſt of the two.

ELATINE.

ELATINE dioſcoridis Lobel. adv. Linaria ſegetum nummulariæ folio villoſo Tourn. Antirrhinum Elatine Linn. FLUELLEN OR FEMALE SPEEDWELL: a low, procumbent plant; with oval, acuminated, downy leaves, ſet alternately on the ſtalks: from their boſoms iſſue long pedicles, bearing irregular, monopetalous, labiated, gaping flowers, with a crooked tail or ſpur behind, followed by roundiſh capſules full of ſmall ſeeds: the upper lip is of a dark purpliſh colour, the lower lip and the ſpur yellow. It is annual, grows wild in corn fields, and flowers in July.

THE leaves of *elatine* have a roughiſh very bitter taſte, and ſcarcely any ſmell. Both watery and ſpirituous menſtrua extract their active matter by infuſion, and leave it entire in evaporation. This herb was formerly accounted an excellent detergent and purifier of the blood. An extract made from it by water has been given in doſes of a dram, and the expreſſed juice from three to five ounces, twice or thrice a day, and the juice applied alſo externally; againſt ſcorbutic diſorders, and different kinds of old ulcers. A decoction of it has been uſed likewiſe in gliſters for alvine fluxes. A combination of its active matter with honey, prepared by boiling four pints of the depurated juice with four pounds of clarified honey, is ſometimes kept in the ſhops; but neither this preparation, nor the herb in any form, are at preſent much made uſe of.

ELEMI.

GUMMI ELEMI Pharm. Lond. ELEMI: a concrete reſinous juice, ſaid to be obtained from a large tree reſembling an olive; *(Amyris elemifera Linn.)* brought from the Spaniſh Weſt Indies, and ſometimes from the Eaſt Indies, in oblong roundiſh cakes, generally wrapt up in flag leaves. The beſt ſort is ſoftiſh, ſomewhat tranſparent, of a pale whitiſh yellow colour, inclining a little to greeniſh. The faculty of Paris mentions a ſpurious elemi, or *gummi chibou*, which is not yet known among us.

ELEMI has a ſtrong, tolerably pleaſant ſmell; and a ſlight bitteriſh taſte. It gives out very little to aqueous menſtrua, but almoſt totally diſſolves in rectified ſpirit, tinging the fluid of a pale gold colour. Diſtilled with water, it yields a thin pale coloured eſſential oil, amounting to about one ounce from ſixteen, of a moderately pungent taſte, and ſmelling ſtrongly of the elemi: a friable inodorous reſin remains behind in the ſtill. On ſubmitting to diſtillation the ſolution made in rectified ſpirit, a little of the fragrance of the elemi ariſes with the ſpirit, greateſt part remaining in the inſpiſſated maſs, which has a conſiderable ſhare of the ſmell, though it makes little impreſſion on the organs of taſte.

This reſin is ſcarcely otherwiſe employed among us, than as an ingredient in digeſtive ointments; one of the beſt of the officinal digeſtives, formerly called the ointment or liniment of Arcæus, conſiſts of ſix parts of the elemi, five of turpentine, twelve of ſheeps ſuet, and one of olive oil melted together. This reſin ſhould nevertheleſs ſeem applicable to other purpoſes, and to be preferable, for internal uſe, to ſome reſinous ſubſtances that have been held in greater eſteem. **Ung. Elemi** *Ph. Lond.*

ELICHRYSUM.

ELICHRYSUM ſive Stœchas citrina Pharm. Pariſ. Elichryſum ſive ſtœchas citrina anguſtifolia C. B. Gnaphalium Stœchas Linn. GOLDILOCKS: a ſmall, ſhrubby, downy plant; clothed with long, very narrow leaves: producing, on the tops of the branches, ſeveral ſmall round heads of bright yellow ſcaly flowers. It is a native of the ſouthern parts of France, flowers in our gardens in May and June, and holds its leaves all the winter.

THE flowers or ſcaly heads of this plant, naturally dry and firm, retain their figure and gloſſy yellow colour for years. Both the flowers and leaves, rubbed a little, yield an agreeable and moderately ſtrong ſmell: to the taſte they diſcover a conſiderable warmth, pungency, and bitteriſhneſs: from whence it may be preſumed, that the aperient and corroborant virtues, commonly aſcribed to them, are not wholly without foundation.

ENDIVIA.

INTYBUS ſativa latifolia ſive endivia vulgaris C. B. Cichorium endivia Linn. ENDIVE: a common culinary plant, reſembling cichory in the flowers and ſeeds; and differing from it chiefly in being annual, and in the leaves being ſhorter, broader, and only ſlightly crenated, not jagged, about the edges.

ENDIVE agrees with cichory in quality as in appearance; containing, like it, a milky juice, of a bitteriſh taſte, which it loſes on being blanched by culture: the greener the colour of the leaves, the greater is the bitterneſs of the whole plant. In its bittereſt ſtate, however, it is ſomewhat leſs ſo than the cichory.

ENULA CAMPANA.

ENULA CAMPANA Pharm. Lond. Enula campana ſeu helenium Pharm. Edinb. Inula Geſn. hort. Helenium vulgare C. B. Aſter omnium maximus Tourn. Inula Helenium Linn. ELECAMPANE: a large plant, with long, wrinkled, oval, acuminated leaves, ſerrated about the edges, pale green above, and hoary underneath, joined cloſe to the ſtalk, which divides towards the top into ſeveral branches, bearing large yellow flowers of the radiated diſcous kind, followed by oblong ſeeds winged with down: the roots are ſhort and thick, ſomewhat unctuous to the touch, brown or blackiſh on the outſide, and whitiſh within. It is perennial, grows wild in moiſt rich ſoils, and flowers in June.

The freſh roots of elecampane have a weak not very grateful ſmell; which, on thoroughly drying and keeping them for ſome time, is greatly improved, and approaches to that of Florence orris. Chewed, they diſcover at firſt a kind of rancid glutinous taſte, quickly ſucceeded by an aromatic bitterneſs, which by degrees becomes conſiderably pungent.

This root ſtands recommended as a diaphoretic and ſtomachic, for promoting expectoration in humoural aſthmas and coughs, and for attenuating viſcid juices in general, and diſpoſing them to excretion: taken freely, it is ſaid to gently looſen the belly, and increaſe the urinary diſcharge. The doſe of the dry root in ſubſtance is from a ſcruple to a dram or two.

It gives out its virtue partially to aqueous, totally to ſpirituous menſtrua: the former it tinges of a muddy yellowiſh, the latter of a bright pale yellow colour. In diſtillation with water, it gives over an eſſential oil, which concretes into white flakes, partly ſwimming on the water, and partly ſubſiding, in quantity about one dram from thirty ounces, of no great heat or pungency, ſmelling at firſt pretty ſtrongly of the elecampane, but very apt to loſe its ſmell in keeping. Great part of the aromatic warmth and pungency, as well as the bitterneſs, reſide in a matter of a more fixt kind, which does not eaſily exhale in the heat of boiling water, and is preſerved in tolerable perfection in the watery extract. Rectified ſpirit elevates little or nothing from this root: the ſpirituous extract is conſiderably ſtronger than the watery, though its pungency is not near ſo great as might be expected conſidering the ſmallneſs of its quantity: it ſcarcely exceeds one fifteenth the weight of the root, whereas the watery extract amounts to almoſt one half.

EPITHYMUM.

EPITHYMUM Pharm. Pariſ. Epithymum ſive cuſcuta minor C.B. Cuſcuta Epithymum Linn. Dodder of thyme: a plant without leaves, growing on thyme, conſiſting of a number of ſlender juicy filaments, producing here and there ſmall heads of white or reddiſh flowers, which are followed by roundiſh capſules full of minute ſeeds. Dodder receives its nouriſhment from the vegetable on which it climbs, its own roots quickly periſhing. A large kind, vulgarly called hellweed, is common in heaths, upon furzes, nettles, &c. and in fields of flax and other manured herbs. The ſmaller ſort, found upon thyme, has been generally preferred for medicinal uſe, and imported to us from Turkey and Leghorn, intermixed with ſtalks and tops of thyme. It is ſuppoſed by ſome, that the dodder partakes of the qualities of the plant by which it is ſupported.

Dodder of thyme has a pretty ſtrong not diſagreeable ſmell, and a peculiar kind of ſubtile pungent taſte, very durable in the mouth, and ſinking as it were into the tongue. Though it was early received into medicine, its medicinal qualities are not as yet known. The ancients accounted it cathartic, but when given by itſelf it is found to have very little purgative virtue. Some late writers recommend it rather as a deobſtruent, in melancholic and other diſorders. It is in this country an entire ſtranger to practice; though the remarkable ſubtility of its taſte ſeems to promiſe ſome conſiderable medicinal power.

EQUISETUM.

CAUDA equina. Equiſetum paluſtre longioribus ſetis C. B. Hippuris vulgaris Linn. HORSETAIL: a plant, with a thick hollow ſtraight ſtalk, full of joints; and long, ſlender, rough, ſtiff, jointed, ruſh-like leaves, ſtanding ſeveral round every articulation in form of a ſtar. It is perennial, and common in watery places.

THE leaves of equiſetum have been accounted powerfully aſtringent, and hence recommended in different fluxes and hemorrhagies: the doſe commonly directed is a dram of the dry leaves in powder, or two ounces of the expreſſed juice. They appear, indeed, from their ſenſible qualities, to have ſome virtues of this kind, but in a very low degree: in the leaves themſelves, the aſtringency is ſo weak, that the taſte ſcarcely gives any notice of it, though ſolution of chalybeate vitriol renders it apparent by the inky blackneſs it receives from them: the aſtringent matter is extracted both by watery and ſpirituous menſtrua, and when concentrated by inſpiſſating the infuſions, proves ſtill of ſo weak a kind, and in ſo little quantity, that the plant can be ranked only among the milder reſtringent corroborants. In this intention, an infuſion of the dried herb may be uſed as tea.

ERIGERUM.

SENECIO minor vulgaris C. B. Senecio vulgaris Linn. GROUNDSEL: a low, branched plant, with oblong narrow leaves, deeply cut into wing-like ſections, joined to the ſtalk by broad baſes: on the tops grow numerous yellow flowers, of the naked diſcous kind, ſet in large cups, and followed by ſmall ſeeds winged with down. It is a common annual weed in dry grounds.

The leaves of groundſel have an herbaceous ſomewhat ſaline taſte, and no remarkable ſmell. They ſtand recommended, externally, as a vulnerary and refrigerant, internally as a mild and ſafe emetic. The expreſſed juice, or an infuſion or decoction of the herb, are by ſeveral writers directed in this laſt intention, but neither of them appear to have any conſiderable effect: perhaps theſe, who aſcribe to them an emetic power, were impoſed on by giving ſuch large doſes, as to nauſeate the ſtomach by the quantity of fluid.

ERUCA.

ROCKET: a plant with ſmooth oblong narrow leaves deeply jagged about the edges, bearing on the tops of the ſtalks numerous tetrapetalous flowers, which are followed by angular pods, full of ſmall roundiſh ſeeds flatted on one ſide. It is annual.

1. Eruca: *eruca latifolia alba, ſativa dioſcoridis C. B. Braſſica Eruca Linn.* Garden or Roman rocket, or rocket gentle: with leaves like thoſe of turneps, but much ſmaller; and whitiſh flowers variegated with black ſtreaks. It is a native of Switzerland, and cultivated among us in gardens.

2. Eruca silvestris: *eruca ſylveſtris major lutea caule aſpero C. B. Braſſica Erucaſtrum Linn.*

Linn. Wild rocket: with leaves like thoſe of dandelion, and yellow flowers; common on old walls, and among rubbiſh.

THE leaves of both the rockets have an acrid taſte like that of creſſes, and a rank diſagreeable ſmell: the roots are as acrid as the leaves: the ſeeds much more ſo, approaching to the pungency of muſtard. The wild ſort is, in all its parts, conſiderably more acrid than the garden, though the faculty of Paris allows both ſorts to be taken indiſcriminately. They are accounted good aperients and antiſcorbutics, but are now rarely made uſe of on account of their ill flavour: to the aphrodiſiac virtues, commonly aſcribed to them, they appear to have no other title than the reſt of the pungent ſtimulating plants.

The active matter of the leaves is extracted by expreſſion, by infuſion in boiling water, and by digeſtion or maceration in rectified ſpirit; with this difference, that the infuſions and tinctures retain the ill ſmell of the herb, which in expreſſion is in great meaſure deſtroyed. On drying the herb itſelf, or inſpiſſating the juice of the watery or ſpirituous tinctures, the pungency, as well as the ſmell, is almoſt totally diſſipated. In diſtillation with water, a very ſmall quantity of a yellowiſh, very pungent, and very volatile eſſential oil is obtained.

The pungency of the ſeeds is of a leſs volatile kind; not exhaling in exſiccation, and ariſing more difficultly with water in diſtillation: and though it appears to reſide, as that of the leaves, in an eſſential oil, it is but partially extracted by rectified ſpirit. In theſe reſpects the ſeeds of rocket agree with thoſe of muſtard; to which they appear to be ſimilar alſo, but inferiour, in medicinal virtue.

ERYNGIUM.

ERYNGIUM Pharm. Lond. Eryngium maritimum C. B. & Linn. ERYNGO or SEA HOLLY: a bluiſh, branched, umbelliferous plant, with mallow-like, thick, prickly leaves, angular or jagged about the edges: the flowers are white and ſet in prickly heads, under which a number of little oblong leaves ſtand in form of a ſtar: the roots are ſlender, very long, with a few knots, browniſh on the outſide, and white within. It is perennial, grows plentifully on ſome of our ſandy and gravelly ſhores, and flowers in July.

ERYNGO ROOTS have an agreeable ſweetiſh taſte, which on chewing them for ſome time is followed by a light aromatic warmth and pungency. They are accounted aperient, diuretic, and aphrodiſiac: Boerhaave ſays they are the principal of the aperient diuretic roots, and that he conſtantly made them an ingredient in his preſcriptions againſt ſcurvies: their virtues, however, appear to be but weak, and they are now ſcarcely otherwiſe uſed than as made into a ſweetmeat.

ERYSIMUM.

ERYSIMUM vulgare C. B. Irio ſive eryſimum dioſcoridis Lob. Eryſimum officinale Linn. HEDGE-MUSTARD: a hairy plant, with oblong narrow leaves, divided into wing-like ſections, triangular at the extremity; and tough, branched ſtalks, bearing numerous ſmall, yellow, tetrapetalous flowers, which are followed by ſhort roundiſh pods, ſtanding cloſe to the ſtalks, full of ſmall reddiſh browniſh ſeeds. It is annual, common in waſte places, and flowers in July.

The leaves of eryſimum are ſaid to be attenuant, expectorant, and diuretic; and ſtand particularly recommended againſt chronical coughs, and hoarſeneſs, whether humoural, or occaſioned by immoderate exertion of the voice. Lobel greatly commends for this purpoſe a compound ſyrup, which, as Geoffroy obſerves, is not ſuperiour to a ſimple mixture of the expreſſed juice of the herb with honey; and indeed it is not very clear whether the virtue of the honey is much improved by the eryſimum. The herb has no ſmell, and its taſte, at leaſt when moderately dried, is little other than herbaceous, with ſomewhat of a ſlight ſaline impregnation.

The ſeeds of eryſimum are conſiderably pungent, and appear to be nearly of the ſame quality with thoſe of muſtard, but weaker. Their acrimony, like that of muſtard-ſeed, is extracted totally by water, and partially by rectified ſpirit, and ſtrongly impregnates water in diſtillation.

EUPATORIUM.

EUPATORIUM arabum Pharm. Pariſ. Eupatorium cannabinum C. B. & Linn. HEMP AGRIMONY: a plant with oblong, acuminated, deeply indented leaves, ſet three on one pedicle, and the pedicles in pairs: the flowers, which ſtand in umbel-like cluſters, conſiſt of purpliſh floſculi ſet in ſcaly cups, followed by oblong ſeeds winged with down. It is perennial, grows wild by the ſides of rivers and ditches, and flowers in July.

The leaves of eupatorium have a light agreeable ſmell, and a pungent very bitter taſte. They are recommended as aperients, laxatives, and corroborants; in beginning dropſies, jaundices, intermitting fevers, and other conſequences of obſtructions of the viſcera, ſucceeding frequent relapſes into acute, or a long continuance of chronical diſeaſes. They are ſaid to be the common medicine of the turf-diggers in Holland, againſt the ſcurvies, foul ulcers, and ſwellings of the feet, to which they are ſubject. Infuſions of the herb may be drank as tea, or the expreſſed juice taken in doſes of one, two, or three ounces; in large quantity, it purges or vomits.

EUPHORBIUM.

EUPHORBIUM: a gummy reſinous concrete juice; exuding from an oriental, prickly, lacteſcent ſhrub, of the ſame name, *euphorbia (officinarum) aculeata nuda multangularis: aculeis geminatis Linn. ſpec. plant.* The juice is brought immediately from Barbary, in drops or tears of an irregular form; ſome of which are found, on being broken, to contain little thorns, twigs, flowers, and other vegetable matters; others are hollow, without any thing in the cavity: the tears are in general eaſy to break, of a pale yellow and ſometimes of a gold colour on the outſide, and white within.

Euphorbium, applied lightly to the tongue, diſcovers a ſharp biting taſte: held for ſome time in the mouth, it proves vehemently acrimonious, inflaming and exulcerating the parts. The finer duſt which flies off in pulverization, unleſs great care is taken to avoid it, is apt to affect the operator's head and throat in a violent manner.

It conſiſts of about equal parts of reſinous and gummy matter. The acrimony reſides chiefly in the former; the ſpirituous tincture being exceſſively fiery, and when inſpiſſated ſtill more ſo; whereas the watery infuſion and extract are bitteriſh with only a ſlight, though a very durable acrimony. A ſingle drop of a ſtrong ſpirituous tincture produces in the mouth a ſenſation of burning, which, as Cartheuſer obſerves, is ſcarcely to be obtunded by mucilages or oils in leſs than an hour. It gives over nothing in diſtillation either to water or ſpirit.

The extreme acrimony of this drug renders it abſolutely unfit for any internal uſe: ſeveral correctors have indeed been propoſed for abating its virulence, but the beſt of them are not to be truſted to. It is employed only, and that but ſeldom, for external purpoſes; in ſtimulating unguents and plaſters for paralytic limbs, carious bones, &c. Some have ventured on a minute portion of it, mixed with other powders, as an errhine, in obſtructions of the noſtrils, and mucous diſorders of the head; a practice by no means adviſable, as we are in no want of medicines for theſe purpoſes, equally effectual, and far more ſafe. I have ſeen violent and dangerous inflammations produced by raſhly uſing even very ſmall quantities of it mixed with ſnuffs.

EUPHRASIA.

EUPHRASIA officinarum C. B. & Linn. Eyebright: a ſmall herb, with little, oval, ſerrated leaves, ſet in pairs, without pedicles: in their boſoms, towards the tops of the ſtalks, come forth labiated, monopetalous, whitiſh flowers, ſtreaked internally with purple and yellow; followed each by a flattiſh capſule, full of ſmall whitiſh ſeeds. It is annual, grows wild in uncultivated grounds, and flowers from July to September.

This plant has long been celebrated as an ophthalmic, both taken internally, and applied externally. Hildanus ſays, he has known aged people, who had their ſight impaired, recover it again by the uſe of this herb; but later practitioners have not been ſo happy as to meet with the like ſucceſs. It may indeed, in ſome caſes, be of ſervice as a mild corroborant; for it diſcovers an aſtringent quality to the taſte, and, in a more ſenſible manner, by ſtriking a black colour with ſolution of chalybeate vitriol. The aſtringent matter is extracted both by water and ſpirit; and when concentrated by inſpiſſating the tinctures, is ſtill found to be very weak.

F E L.

FEL ſive Bilis. Gall or Bile: a bitter animal juice, ſecreted from the blood in the liver, and collected in a particular receptacle. The galls of the ox, the eel, and the pike fiſh, have been chiefly made uſe of in medicine.

This fluid mingles uniformly with water, ſpirit of wine, fixt alkaline lixivia, and volatile alkaline ſpirits, without change of its yellow colour. The concentrated mineral acids coagulate and render it whitiſh: diluted acids, thoſe at leaſt of the vegetable and animal kingdom, change it green: the addition of alkalies to the green mixtures reſtores the natural yellow colour of the bile. Inſpiſſated by heat, it diſſolves almoſt totally in water, but is more ſparingly acted upon by rectified ſpirit *(a)*. It renders oily, unctuous, and reſinous ſubſtances miſcible with watery liquors; preſerves milk from coagulating or turning ſour, and rediſſolves it when already coagulated. Such at leaſt are the properties of the gall of the ox: how far that of other animals agrees with or differs from it in theſe reſpects, is not known *(b)*.

This ſtimulating reſolvent bitter has been given, and as is ſaid with good ſucceſs, for opening obſtructions of the viſcera, promoting urine, the menſes, and labour pains: in this laſt intention, the gall of the eel, which is ſaid to be one of the moſt acrid, has been chiefly recommended. Boerhaave relates, that he has cured pale ricketty children by pills made of the galls of the eel and the pike; that the medicine operated powerfully by urine; and that, by its uſe, the belly, before ſwelled, ſubſided ſurprizingly *(c)*. In want of appetite and other complaints proceeding from a deficiency of bile in the firſt paſſages, this animal bitter may probably be of more ſervice, than thoſe of the vegetable kingdom uſually directed in ſuch intentions. Among us theſe fluids are employed only for external purpoſes: a mixture of ox gall with camphorated ſpirit of wine is ſaid to be an uſeful embrocation for ſprains, bruiſes, rheumatic pains, &c.

(a) Cartheuſer, *Fundamenta mat. med. ſect.* ix. *cap.* i. *Edit. Pariſ. tom.* i. *p.* 519.

(b) *Vide* Baglivi, *Diſſertationes variæ, diſſ.* iii. *de experiment. circa bilem. Opp. p.* 428, *ſeqq.*

(c) *Praxis medica, tom.* i. *p.* 164.

FERRUM.

IRON: a greyiſh, hard metal, between ſeven and eight times ſpecifically heavier than water: diſtinguiſhed from all other metallic bodies, in its metallic ſtate, by its attracting, or being attracted by, the loadſtone; but loſing this attractive power on being reduced, by fire or menſtrua, to a calx: not fuſible without an intenſe white heat, and calcining, by a continuance of a weaker heat, firſt into blackiſh ſcales, and afterwards into a dark reddiſh powder: corroſible by moiſt air into a reddiſh yellow ruſt, and ſoluble in all acids, from which it precipitates all the common metallic bodies except zinc: forming with the marine acid a yellow, with the nitrous a dark red, and with the vitriolic a pale green ſolution; which is changed to an inky blackneſs by the addition of a little galls, and by moſt of the other vegetable aſtringents, and to a reddiſh or purple by a mixture of aſtringents with a minute proportion of any alkaline ſalt. All the ſolutions, by whatever acid effected, on the addition of a lixivium of alkaline ſalts that have been calcined and fully impregnated with animal coals *(a)*, are changed to a deep blue, and on ſtanding depoſite the iron in form of a powder of the ſame colour. By theſe characters, a moſt minute portion of iron may be diſcovered in liquors.

Cæruleum berolinenſe; Pruſſian blue.

Ores of iron, and minerals more ſlightly impregnated with it than thoſe which are ſtrictly called

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(a) Volatile alkaline ſpirits may be completely ſaturated with the matter which tinges diſſolved iron blue, by digeſting them with the pigment called Pruſſian blue; from which they acquire a yellowiſh or greeniſh tincture, leaving the iron in form of ochre or a ruſty coloured calx.

called ores, are common in moſt parts of the world: the red and yellow earths and ſtones generally owe their colour to an admixture of this metal. The iron, extracted from the ore by fuſion in large furnaces in mixture with the fuel, is impure and brittle: being again laid on burning charcoal in a ſmaller furnace or forge, and melted down, a quantity of ſulphureous ſcoria ſeparates, the iron proves leſs fuſible, leſs brittle, and by two or three repetitions of the proceſs, becomes tough enough to be forged into bars. The iron thus purified is employed as an article of the materia medica in two ſtates.

1. FERRUM *Pharm. Lond.* *Ferrum ſive Mars Pharm. Edinb.* Iron, or forged iron: iron in its ſofteſt ſtate; capable of being eaſily filed; acquiring little or no additional hardneſs on being made red-hot and quenched in water; appearing, when broken, of a fibrous texture; exceeding difficult of fuſion, and perhaps not fuſible at all by common fire without the contact of the fuel or other additions.

2. CHALYBS. Steel: iron in a hard ſtate, ſo as to reſiſt the file, or acquiring this hardneſs by heating and quenching it; when broken, of a fine granulated texture; much eaſier of fuſion, ſomewhat more difficult of ſolution, and ſomewhat leſs ſubject to ruſt in the air, than ſoft iron. Iron, cemented in cloſe veſſels, with vegetable or animal coals, becomes ſteel; and ſteel, kept red-hot for ſome time in an open veſſel, becomes ſoft iron again.

THIS metal, when diſſolved, diſcovers a ſtrong auſtere corrugating taſte, and contracts and hardens all the vaſcular and ſoft fibrous parts of animals. To conſtringe and corroborate the animal ſolids appears to be its primary medical operation.

In weak, lax, pale habits, and in chronical diſorders proceeding from languor and debility, cachectic hypochondriacal, and others, this metal has generally good effects: ſtrengthening the ſtomach, and chylopoietic organs, and the ſyſtem in general; quickening the circulation and raiſing the pulſe; rendering the blood more florid, and as it were expanding and rarefying the juices; promoting, when they are deficient, and reſtraining, when immoderate, the ſecretions that are made from the blood, as perſpiration, urine, and the uterine purgations; but for the moſt part binding the belly, though this evacuation alſo, in ſome circumſtances, it promotes.

By the ſame corroborating power, whereby it promotes deficient and reſtrains redundant diſcharges where the ſuppreſſion or flux ariſe from debility and relaxation; it, contrariwiſe, increaſes fluxes and confirms obſtructions when they proceed from tenſion, rigidity, or ſpaſmodic ſtrictures of the veſſels. Where either the circulation is quick, or the habit plethoric; by increaſing the blood's velocity, and all the plethoric ſymptoms, it produces heavineſs, dulneſs, vague heats and fluſhings, or kindles more dangerous fevers or inflammations, or burſts ſome of the over-diſtended ſmall veſſels.

In ſome conſtitutions, even where iron is proper and ſalutary, particularly in hyſterical and hypochondriacal caſes, and where the ſtomach is very weak, it is apt at firſt to occaſion great ſickneſs and perturbation: Sydenham obſerves, that theſe inconveniences may be, in ſome meaſure, prevented by beginning with very ſmall doſes, and giving it for a while only at bed-time, in conjunction with a ſlight opiate(*a*). In other circumſtances, it is commonly taken in the morning and afternoon, and moderate exerciſe uſed to promote its action. The doſe in all caſes ſhould be ſmall, and rather repeated than enlarged: a grain or half a grain of the metal, diſſolved or in a ſoluble ſtate, is generally a ſufficient doſe. Nidorous eructations, and the alvine feces being tinged of a black colour, are marks of its taking effect.

Iron is ſometimes given in ſubſtance, reduced into fine filings; which anſwer, in many caſes, as well as its moſt elaborate preparations; but their action is leſs certain, as depending upon their meeting, in the firſt paſſages, with juices capable of diſſolving them: they are likewiſe the moſt ſubject, when they do act, to produce troubleſome eructations, probably from the property of this metal of yielding copious fetid vapours during its diſſolution. The doſe of the filings is from two or three grains to a ſcruple and more: it is probable that the whole quantity taken does not prove operative, even when the ſtomach abounds moſt with acidities; for on digeſting a ſcruple of the filings in a quarter of a pint or more of ſtrong vinegar, a very conſiderable proportion remains undiſſolved.

Ferri limatura purificata *Ph. Ed.*

Iron filings, procured from the common work-ſhops, may be cleanſed from earthy matters or fragments of other metallic bodies, by means of a magnet, though not ſo perfectly as could be wiſhed. When other metals have been previouſly melted with the iron, the filings of the compound cannot thus be ſeparated from

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(*a*) *Diſſertatio epiſtolaris de variol. confluent. & affect. hyſteric. Oper, p.* 409.

thoſe of pure iron, the loadſtone attracting both: regulus of antimony is the only exception, this metal being found, even in a ſmall proportion, to deſtroy the magnetic power of the iron.

The filings are ſometimes candied with ſugar; a preparation which is very commodious for taking, but which requires a good deal of addreſs in the operator, and is made chiefly by the confectioners. Two parts of fine ſugar, diſſolved in water and boiled down to a candy conſiſtence, are added, by little and little, to one part of the cleanſed filings, in a kettle ſuſpended over a very gentle fire; and the veſſel continually ſhaken, that the filings may be cruſted over with the ſugar: to render the matter leſs ſubject to run into lumps, a little ſtarch is previouſly mixed with the ſugar, in the proportion of a dram to a pound.

Ferri rubigo, vulgo ferri limatura præparata *Ph. Ed.*

Ferri rubigo *Ph. Lond.*

The filings, moiſtened with vinegar or water, and expoſed to a moiſt air, or occaſionally moiſtened afreſh, ſoon change in great part into ruſt, which may be ſeparated from the uncorroded part, by grinding and waſhing over the finer powder with water. The ruſt is given in the ſame doſe as the crude filings, and is perhaps rather eaſier of ſolution. Hoffman ſays, he has often uſed it, with remarkable ſucceſs, in obſtinate chlorotic caſes accompanied with exceſſive head-achs and other alarming ſymptoms; and that he uſually joined with it pimpinella, arum root, and ſalt of tartar, with a little cinnamon and ſugar.

A piece of ſteel, heated in a very fierce fire, as that of a ſmith's forge, to a ſtrong white heat, and immediately applied to a roll of brimſtone held over a veſſel of water, is in part corroded by the ſulphur, and melting, falls down in brown coloured drops; which, picked out from the yellow ſtrings of ſulphur, and levigated into an impalpable powder, are given in the ſame doſes as the filings and ruſt, and nearly with the ſame effects.

As this proceſs is ſomewhat troubleſome and accompanied with offenſive fumes, the ſhops have been generally ſupplied with a ſulphurated preparation made more commodiouſly, by mixing iron filings with twice their weight of flowers of brimſtone, and as much water as will make them into a paſte, which on ſtanding at reſt for ſome hours ſwells up, and is then pulverized, put into a heated crucible to deflagrate, and kept conſtantly ſtirring with an iron ſpatula till it falls into a deep black powder.

This powder, urged longer in the fire, becomes red, and in this ſtate has been uſually diſtinguiſhed in the ſhops by the name of aperient crocus: when further reverberated with a very intenſe heat, it is called aſtringent crocus. This notion, of oppoſite virtues in the two preparations, does not appear to have any juſt foundation; chalybeate medicines in general acting by an aſtringent power, though with different degrees of force. The college of Edinburgh allows colcothar of vitriol as a ſubſtitute both to the aperient and the aſtringent crocus; and indeed it appears to be at bottom, if duly prepared, the very ſame thing with them: all the three are no other than iron, that has been corroded by the ſulphureous or vitriolic acid, and afterwards by fire diveſted of greateſt part of the acid, and reduced to a ſtate of calx: the colcothar, however, as remaining after the diſtillation of the vitriol, commonly retains much more acid than the others, a circumſtance to be attended to in the ſubſtitution of it. In all theſe kinds of preparations, only a ſmall

Colcothar Vitrioli *Ph. Ed.*

ſmall quantity of the metal is in a ſoluble or active ſtate, more or leſs according to the proportion of acid: when iron is perfectly calcined, and no acid combined with it, it has ſcarcely any ſenſible operation.

Oil of vitriol, diluted with from equal to five or ſix times its meaſure, or more, of water, and aſſiſted by a gentle heat, acts readily on iron, and emits, during its action, a ſtrong ſulphureous vapour, which on the approach of any flaming body, catches fire, and explodes, ſo as ſometimes to burſt the veſſel, eſpecially if its mouth is narrow. The ſolution filtered, and evaporated till a pellicle appears on the ſurface, yields, on ſtanding in the cold, green cryſtals, the ſame with the common green vitriol. To four parts of oil of vitriol ſome direct three of the iron filings †; others an equal quantity of each ‡.

† Vitriolum martis, ſeu ſal chalybis *Ph. Ed.*
‡ Ferrum vitriolat. *Ph. Lond.*

The marine acid diſſolves much leſs of this metal than the vitriolic: on macerating half a pound of iron filings in three pounds of ſpirit of ſalt till the acid ceaſes to act, a notable quantity remains at laſt undiſſolved. The ſolution is exceſſively ſtyptic, far more ſo than the combinations of iron with any other acid: it has likewiſe this peculiarity, that it mingles equally with, and when inſpiſſated diſſolves in, rectified ſpirit of wine; on which foundation the ſpirituous chalybeate tinctures depend. Some inſpiſſate the marine ſolution, made in the quantity above-mentioned, but with the ruſt inſtead of the filings of iron, to the weight of a pound, and then add three pints of rectified ſpirit: others diſſolve three ounces of clean iron ſcales in a ſufficient quantity of the acid, and then add ſo much rectified ſpirit as to make the weight of the whole, two pounds and a half.

Tinct. ferri muriati *Ph. Lond.*

Tinct. martis *Ph. Ed.*

Of theſe tinctures, a few drops are a ſufficient doſe.

On grinding iron filings, or waſhed colcothar of green vitriol, with equal or twice their weight of ſal ammoniac, moiſtening the mixture with water, gently drying it, and repeating the pulverization, humectation, and exſiccation, a few times; the iron is in a conſiderable degree attenuated, and on ſublimation with a quick fire, ſo much of it ariſes with the ſalt as to communicate a deep yellow or orange colour. If the iron and ſal ammoniac be only mixed together, and the ſublimation performed with a ſlow fire, ſuch as a glaſs retort will bear, the flowers prove at firſt pale, and require, in order to their being ſufficiently tinged with the metal, to be ground with the reſiduum, ſublimed again, and this proceſs repeated. Theſe flowers have a very pungent auſtere taſte, and are ſuppoſed to be more aperient and attenuating than the other chalybeates, by virtue of the ſaline matter joined to the iron. They are moſt conveniently given in the form of a bolus, from three or four grains to twenty: they occaſion pills to ſwell and crumble, except ſuch as are compoſed of gummy reſins: in a liquid form they are nauſeous, except in ſpirituous tinctures. A tincture made by digeſting four ounces of the flowers in a pint of proof ſpirit, is a ſufficiently elegant chalybeate, and may be given in doſes of a tea-ſpoonful.

Flores martiales *vulgo* Ens Veneris *Ph. Ed.*

Ferrum ammoniac. *Ph. Lond.*

The matter which remains after the ſublimation of the flowers, expoſed to a moiſt air, runs into a liquid, in taſte extremely ſtyptic, and greatly reſembling a ſaturated ſolution of iron made in ſpirit of ſalt; the marine acid and volatile alkali of the ſal ammoniac being in part ſeparated from one another in the proceſs.

Lixivium martis.

Solutions of iron in vegetable acids are much more mild, and leſs ungrateful both to the palate and ſtomach, than ſuch as are made in the acids of the mineral kingdom. Vinegar, juices of oranges, lemons, apples, and other fruits, acidulous wines, and tartar, have been made uſe of for this purpoſe. A vinous tincture is prepared in the ſhops, by macerating four ounces of iron filings, for a month, in four pints of mountain wine. The doſe of the tincture is from a tea-ſpoonful to a common ſpoonful and upwards. For making theſe kinds of preparations, fine iron wire, cut in pieces, is more eligible than the filings, as we may always depend on the wire being pure iron, and as, by lying looſer, and expoſing a larger ſurface to the fluid, it is more eaſily acted on.

Vin. ferri *Ph. Lond.*

Some direct ſolutions of iron made in wine, or other vegetable acids, to be inſpiſſated to the conſiſtence of an extract. Theſe kinds of preparations are commodious for ſome purpoſes, particularly for being made into pills; as being tenacious enough to give a due conſiſtence to a conſiderable admixture of powdery matters. They are moſt of them very apt to grow mouldy in keeping; an extract made with the juice of golden rennets is ſaid by Neumann to be free from this inconvenience.

Extract. mart.

A combination of iron with the acid of tartar is moſt commodiouſly obtained, by grinding the filings with equal their weight of cryſtals of tartar, forming the mixture into a maſs with water, then pulverizing, and repeating the humectation and exſiccation alternately, till the whole falls into an impalpable powder. The London college direct double the weight of cryſtals of tartar; and order the mixture, after expoſure to the air in a ſhallow earthen veſſel for

Mars ſolub. ſeu chalybs tartarizatus.

Ferrum tartariſat. *Ph. Lond.*

ſor eight days, to be dried and ground to an impalpable powder. This is a very elegant and uſeful chalybeate, the tartar rendering almoſt all the iron diſſoluble. It is given either in a ſolid or liquid form, from two or three grains, to ten or more. It has been uſually diſtinguiſhed in the ſhops by the name of its inventor Dr. Willis.

If the mixture of iron filings and tartar be calcined in a crucible for ſome time with a red heat, and ſuch part as cannot eaſily be reduced into fine powder, calcined again; the tartar will be converted into a fixt alkaline ſalt, and by this alſo the iron will be in part corroded and rendered ſoluble. There are ſeveral other methods of obtaining alkaline ſolutions of iron; but theſe kinds of combinations appear ill adapted for medicinal uſe, and are at preſent wholly neglected.

Mars ſolub. alkalizatus.

Some have made trial of the blue precipitate of iron called Pruſſian blue, and report that it ſeemed to act as a diaphoretic, and in ſome caſes as an aperient (a). Of all the known preparations of iron, this promiſes the leaſt activity: the perfect calces, almoſt if not wholly inert, are ſoluble in certain acids, particularly in the marine; but the Pruſſian blue is not acted upon by any kind of acid menſtruum.

*FILIX.

FILIX Pharm. Lond. Filix mas Pharm. Edinb. Filix non ramoſa dentata C. B. Polypodium Filix mas Linn. MALE FERN: a plant of that claſs which has the fructification at the back of the leaves. This ſpecies has large doubly-pinnated unbranched leaves, with ſtalks riſing ſingly from the root. The root conſiſts of an oblong ſcaly body, terminating in numerous fibres. The plant grows commonly under hedges.

(a) Geoffroy, *Memoires de l'acad. roy. des ſciences de Paris, pour l'ann.* 1743.

The efficacy of fern root againſt worms was known in the time of Dioſcorides; and towards the beginning of this century, Meſſrs. Andry and Marchant publiſhed accounts of ſucceſsful modes of exhibiting it in theſe caſes. It was, however, fallen into neglect, till a few years ago, when it came again into notice, by being diſcovered to be the remedy which had become greatly celebrated in Switzerland as a ſpecific in the cure of the tænia or tape-worm. The ſecret was purchaſed by the king of France, after its efficacy had been atteſted upon trial by ſome of the principal phyſicians at Paris. The following has been publiſhed as the mode of its exhibition. After the patient has been prepared by an emollient clyſter and a ſupper of panada with butter and ſalt; he is directed to take in bed in the morning a doſe of two or three drams of the powder of male fern root. The doſe to infants is only one dram. The powder muſt be waſhed down with a draught of water, but nothing elſe muſt be taken till two hours after, when a bolus of calomel, joined with ſome of the ſtronger cathartics, is to be given. If this does not operate, it muſt be followed by a doſe of purging ſalts. By this method, the worm is commonly expelled in a few hours. If the firſt trial does not ſucceed, the proceſs muſt be repeated at due intervals (*a*).

(*a*) *Précis du traitement contre le Ténia ou Ver ſolitaire, pratiqué a Morat en Suiſſe, examiné & approuvé a Paris. Publié par ordre du Roi. Paris,* 1775.

* *FLAMMULA JOVIS.*

FLAMMULA JOVIS Stœrck, Pharm. Edinb. Flammula recta C. B. Clèmatis recta Linn. UPRIGHT VIRGIN'S BOWER: this ſpecies of clematis, diſtinguiſhed by its pinnated oval leaves, and erect ſtalk, grows wild in thickets, in the ſouthern parts of France and Germany. Its leaves and flowers are extremely acrid; the former, when freſh, raiſing bliſters on the part to which they are applied.

The flammula jovis is one of the new medicines introduced by Dr. Stœrck. He has publiſhed ſeveral caſes of its efficacy in cancerous, venereal, and other malignant ulcers, obſtinate pains of the head and bones, inveterate itch, and other diſeaſes proceeding from peculiar acrimony. It was uſed internally, in infuſion of the flowers or leaves, and extract of the plant; and the powder was ſprinkled on the ulcers externally, where it was found to act as a moſt excellent eſcharotic and detergent. The medicine is ſaid to have proved diuretic to ſome patients, and ſudorific to others, but rarely to have moved the belly. Small doſes, of only half a grain of the extract, and half a dram of the dried leaves in infuſion, were at firſt exhibited, which were gradually increaſed.

FOENICULUM.

FOENICULUM; Marathrum. FENNEL: an umbelliferous plant, with dark green leaves divided into long capillary ſegments: the umbels are ſomewhat concave, and have no leaves or cup at their origin: the ſeeds oval, oblong, marked with prominent ſtriæ: the root ſtraight, white, about the thickneſs of the finger.

1. Foeniculum dulce *Pharm. Lond. & Edinb. & C. B. Anethum Fœniculum Linn.* Sweet fennel: with whitiſh or pale greeniſh yellow ſeeds, generally crooked. It is annual, a native of the warmer climates, and cultivated in our gardens. The ſhops are commonly ſupplied, from Germany, with ſeeds, ſuperiour to thoſe of our own growth.

Sweet fennel seeds are an uſeful ſtomachic and carminative; of an agreeable aromatic ſmell, and a moderately warm ſweetiſh taſte. They are ſometimes given in powder, from a ſcruple to a dram; and ſometimes candied.

Water extracts the virtue of theſe ſeeds very imperfectly by infuſion, but carries it off totally in evaporation: after repeated infuſion, they retain part of their aromatic warmth, and the liquors are much leſs agreeable than the ſeeds in ſubſtance; after boiling for ſome time, the ſeeds prove entirely inſipid, and the decoction, inſpiſſated to the conſiſtence of an extract, is very nearly ſo. By diſtillation, they impregnate water with their flavour: a gallon receives a ſtrong impregnation from a pound of the ſeeds. A large proportion of eſſential oil ſeparates in the diſtillation, and floats on the ſurface of the aqueous fluid: in colour yellowiſh, in ſmell moderately ſtrong and diffuſive, and exactly reſembling the fennel, in taſte mild and ſweetiſh like the oil of aniſeeds, and like it alſo congealing, by a ſlight cold, into a white butyraceous maſs.

Aqua fœniculi *Ph. Lond.*

Theſe ſeeds contain likewiſe a conſiderable quantity of a groſs oil of the expreſſed kind, which, when freed from the eſſential oil, diſcovers no particular ſmell or taſte. This oil is extracted, along with the aromatic matter of the fennel, by digeſtion in rectified ſpirit, but ſeparates and riſes to the ſurface upon inſpiſſating the filtered tincture. The ſpirit, gently diſtilled off, has very little of the flavour of the ſeeds; the oily matter retains a part both of their taſte and ſmell; but much the greateſt part remains concentrated in the extract.

2. Foeniculum vulgare *Pharm. Edinb. Fœniculum vulgare germanicum C. B.* Common fennel or finckle: with ſmaller, dark coloured almoſt blackiſh ſeeds. It is now reckoned only a variety of the former.

The ſeeds of this kind are warmer and more pungent, but leſs ſweet, and of a leſs grateful flavour, than thoſe of the preceding; and the ſame difference obtains in the diſtilled waters, diſtilled oils, and the ſpirituous extracts of the two kinds. The ſpirituous tinctures are ſomewhat different alſo, as the ſeeds themſelves, in colour: thoſe of the ſweet fennel ſeeds being yellowiſh, of the common greeniſh.

The leaves of common fennel have the ſame kind of flavour with the ſeeds, and are in ſmell ſtronger, though in taſte weaker and leſs agreeable. They impregnate water, by diſtillation, with a ſufficiently grateful flavour, and yield a conſiderable portion of eſſential oil. An extract made from them by rectified ſpirit is likewiſe no inelegant aromatic: the colour of the ſpirituous tincture is a deep green.

The roots, taken up early in the ſpring, have a pleaſant ſweetiſh taſte, with a ſlight aromatic warmth; but nothing of the peculiar ſtrong flavour of the leaves and ſeeds. They are ranked among the aperient roots, and ſuppoſed by ſome to be equivalent in virtue to the celebrated ginſeng of the Chineſe, from which however they differ conſiderably in their ſenſible qualities (ſee *Ginſeng).* They give out their virtue, by infuſion or ſlight coction to water, and by moderate digeſtion to rectified ſpirit: to the latter they communicate a pale amber colour, to the former a wheyiſh appearance. The aqueous infuſions are in taſte conſiderably the ſtrongeſt, but on being inſpiſſated, they yield an extract of very little taſte and in very ſmall quantity; greateſt part of the ſweetiſh matter as well as the aromatic being diſſipated in the evaporation. The ſpirituous extract is in larger quantity, about one twelfth the weight of the root, and of a moderately ſtrong taſte; agreeable, unctuous, ſweetiſh, lightly aromatic, with ſome ſmall admixture of bitteriſhneſs.

FOENUM GRÆCUM.

FOENUM GRÆCUM Pharm. Lond. & Edinb. Fœnum græcum ſativum C. B. Fœnugræcum J. B. Trigonella Fœnum-græcum Linn. Fenugreek: a plant with ſlightly ſerrated oblong or roundiſh leaves, ſet three on a pedicle; and whitiſh papilionaceous flowers, which are followed by long ſlender crooked flattiſh pods, containing yellowiſh rhomboidal ſeeds furrowed from angle to angle. It is ſown annually in the ſouthern parts of Europe, from whence the ſeeds are brought to us.

Fenugreek seeds have a ſtrong diſagreeable ſmell, and an unctuous farinaceous taſte accompanied with a ſlight bitteriſhneſs. An ounce renders a pint of water thick and ſlimy: the decoction, inſpiſſated, yields an unctuous mucilaginous bitteriſh extract, retaining a conſiderable ſhare of the ill flavour of the ſeeds, and amounting to about three fourths their quantity. To rectified ſpirit they give out the whole of their diſtinguiſhing ſmell and taſte; and afterwards to water a ſtrong flavourleſs mucilage.

The principal uſe of theſe ſeeds is in cataplaſms and fomentations, for ſoftening, maturating, and diſcuſſing tumours; and in emollient and carminative glyſters. They are an ingredient in the *oleum e mucilaginibus* of the ſhops, to which they communicate a conſiderable ſhare of their ſmell.

FORMICA.

FORMICA Pharm. Pariſ. The Ant or Pismire: a ſmall, oblong, reddiſh or blackiſh inſect, furniſhed with a ſting: the male has four wings, naked or uncovered; the female none.

This inſect contains an acid juice; which it ſheds on being irritated; with which, by agitation or boiling, it impregnates both water and rectified ſpirit; leſs volatile than pure ſpirit, ſo as to be concentrable from the ſpirituous infuſion by drawing off a part of the menſtruum: not quite ſo volatile as water, a conſiderable part of the water ariſing firſt with only a ſlight acidulous impregnation, and the ſtrong acid coming over with the remainder; differing in its properties from all the other known acids; and approaching neareſt to thoſe produced from vegetables by fermentation. The ant contains likewiſe a groſs oil, ſeparable by boiling in water, riſing to the ſurface of the aqueous fluid, and ſimilar in its general qualities to the expreſſed oils of vegetables; as alſo a ſubtile oil, which comes over in diſtillation both with rectified ſpirit and with water, analogous to the vegetable eſſential oils, but wanting their pungent taſte *(a)*.

The medical qualities of this inſect, and its remarkable productions, are not certainly known. It has been generally ſuppoſed, that the ants in ſubſtance, and infuſions and diſtilled waters of them, have an aphrodiſiac virtue; a virtue for which the above analyſis does not appear to afford much foundation, though they are ſtill retained in the *aquæ magnanimitatis* and other like compoſitions in foreign pharmacopœias. The inſects in their chryſalis ſtate, commonly called ants eggs, (which diſcover no marks of acidity) are ſaid to be ſtrongly diuretic and carminative: a decoction of a ſpoonful of them in butter-milk has been directed by ſome to be taken every morning in dropſies. The acid is recommended by Hoffman as one of the beſt menſtrua of iron for medicinal uſes.

FRANGULA.

ALNUS nigra baccifera C. B. Rhamnus Frangula Linn. BLACK ALDER: a ſmall tree, or ſhrub, with ſlender flexible branches, and broad roundiſh leaves; bearing black berries, which contain a blue juice, with two ſeeds in each. It is common in moiſt woods in ſeveral parts of England.

THE internal yellow bark of this ſhrub is a ſtrong cathartic, and in this intention is ſometimes made uſe of by the common people in dropſies and other diſorders: it generally operates with great violence, occaſioning nauſeæ, ſickneſs, gripes, and often vomiting. An infuſion or decoction of it in water, inſpiſſated to the conſiſtence of an extract, acts with greater mildneſs than the bark itſelf. It gives a deep yellow tincture both to water and ſpirit.

(a) *Vide* Neumann, *Chemical works, p.* 497. Marggraf, *Memoires de l'acad. roy. de ſcienc. de Berlin, pour l'ann.* 1749.

The berries alſo are ſtrongly purgative; but are ſcarcely ever made uſe of, at leaſt under their own name. In our markets, they are ſaid to be ſometimes ſubſtituted to thoſe of buckthorn; which laſt may be diſtinguiſhed by their green juice, and by their containing generally four ſeeds.

FRAXINUS.

FRAXINUS excelſior C. B. & Linn. ASH: a tall tree common in woods and hedges; with a whitiſh bark, and oblong reddiſh brown ſeeds in ſhape ſomewhat reſembling a bird's tongue, whence their names *lingua avis*, *ornithogloſſum*, &c.

The bark of the aſh tree, when freſh, has a moderately ſtrong, bitteriſh, unpleaſant taſte, which in drying grows weaker. It has been given in ſubſtance from half a dram to a dram, and an extract made from it by water in ſmaller doſes, as a reſolvent and diuretic (a), and in intermitting fevers, in which it is ſaid to have often proved ſucceſsful, eſpecially when aſſiſted by fixt alkaline ſalts. Vander Mye reports, that at the ſiege of Breda, in defect of guaiacum, a decoction of this bark was made trial of in its place, and was found to be a potent ſudorific; that in conſequence of this diſcovery, it was given in peſtilential caſes, but that the decoction being diſguſtful by its quantity, a diſtilled water was ſubſtituted, which in doſes of two ſpoonfuls excited ſweat freely, and was ſalutary to many *(a)*. It muſt be obſerved, that this water was diſtilled in a ſand heat, and is deſcribed as being ungrateful and ſmoky: from whence it appears to have been, not what is commonly called a diſtilled water, but an acid empyreumatic liquor, ſuch as is forced out by fire from all vegetables: whatever might have been its virtues in malignant diſeaſes, they apparently depended, not upon its being a preparation of aſh bark, but on its being an acid.

(a) Ducheſne, *(Quercetanus) Pharm. dogmat. reſtitut. cap.* 26.

Among us, this bark is regarded only on account of a phenomenon, of more curioſity than uſe, obſerved in its watery infuſion, ſimilar to that of the infuſion of the lignum nephriticum. The liquor, if only ſlightly impregnated with the bark, on being held againſt the light, appears of a pale yellowiſh colour; looked down upon, or placed betwixt the eye and an opake object, blue: the addition of an acid deſtroys the bluneſs, and alkalies recover it again. The ſpirituous tincture exhibits the ſame variability of colour; with this difference, that againſt the light, it appears of a much deeper gold or orange yellow.

The ſeeds of the aſh tree have been given to the quantity of a dram, as diuretics, aphrodiſiacs, and for reducing corpulent habits. They have a conſiderable taſte, of a bitteriſh, aromatic, not very agreeable kind.

(a) Fred. Vander Mye, *de morbis Bredanis*, p. 26.

FRUC-

FRUCTUS HORÆI.

FRUCTUS HORÆI Medicorum. Fraga, ceraſa, ribeſia, mora, fructus rubi idæi, &c. SUMMER FRUITS: ſtrawberries, cherries, currants, mulberries, raſpberries, &c.

THESE mild ſweet ſubacid fruits are ſometimes uſed medicinally, as refrigerants, antiſeptics, relaxants, attenuants and aperients. Boerhaave looks upon their continued uſe as one of the principal remedies in caſes of obſtruction and viſcidity, and in putrid diſorders (*a*); and Hoffman gives inſtances of ſome obſtinate diſeaſes being cured by them (*b*): they apparently promote the alvine and urinary excretions; and in ſome fevers, where watery liquors run off almoſt unchanged, theſe fruits or their juices render the urine coloured. As dietetic articles, they afford little nutriment, and are liable to produce flatulencies: to perſons of a bilious temperament and rigid fibres, and where the habit is diſpoſed, naturally or from extrinſic cauſes, to an inflammatory or putreſcent ſtate, their moderate, and even plentiful uſe, is ſalubrious: by thoſe of a cold inactive diſpoſition, where the veſſels are lax, the circulation languid, and the digeſtion weak, they ſhould be uſed very ſparingly.

The juices, extracted from fruits by expreſſion, contain their medicinal parts, freed from the groſſer indigeſtible matter. On ſtanding, they ferment, and change to a vinous or acetous ſtate: by a proper addition of ſugar, and

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(*a*) *Elementa chemiæ, proceſſ.* iii. *Praxis medica paſſim.*

(*b*) *Med. rational. de affectione phthiſica, obſ.* i. *Oper. tom.* iii. *p.* 295.

by boiling, their fermentative power is ſuppreſſed, and their medicinal qualities preſerved. The inſpiſſated juices are found to be leſs flatulent, and leſs diſpoſed, when taken freely, to produce gripes and fluxes, than an equivalent quantity of the fruits in ſubſtance or of the juices unboiled.

Syrup. moribis nigr. & rubi idæi *Ph. Lond.*

Theſe juices, purified from their feculencies by ſettling and ſtraining, and made into ſyrups by a leſs proportion of ſugar, than water or the common watery infuſions require. For a quart of the depurated juices of mulberries, raſpberries, &c. fifty ounces at moſt are ſufficient; whereas the generality of vegetable infuſions require fifty-eight. The more juicy berries give out their juice by heat without expreſſion: if equal parts of picked currants and ſugar be ſet over a gentle fire, the ſugar diſſolves in the juice of the fruit, and by boiling for a little time, an elegant jelly is formed, which may be freed from the ſkins by ſtraining. Theſe preparations may be occaſionally diſſolved in water, and uſed as diluents, reſolvents, &c. in acute and other diſeaſes.

The kernels of the ſtones of fruits, as of cherries, plums, &c. are of the ſame general nature with almonds. Thoſe which have any bitteriſhneſs or particular flavour, receive theſe qualities from a ſubtile principle; which is extracted by maceration in vinous ſpirits; which riſes in diſtillation with water; and which, when thus ſeparated from the oily and farinaceous matter of the kernel, and combined with only a ſmall quantity of the menſtruum, appears to be, like the flavouring matter of bitter almonds, poiſonous. Some phyſicians having found, that a diſtilled water very ſtrongly impregnated with black cherry kernels, no more than two pints being diſtilled from fourteen pounds of the ſtones bruiſed, proves poiſonous to brutes; the committee of the London college, appointed to reform their pharmacopœia, repeated the experiment with the ſame event.

FRUMENTUM.

FRUMENTA, Farinacea, Cerealia, Medicorum. Triticum ejuſque amylum & furfur; oryza; avena; hordeum, &c. BREAD-CORN OF GRAIN: wheat, with the ſtarch made from it by maceration in water, and its bran; rice; oats, barley, &c. * *(a).*

THESE farinaceous ſeeds are leſs nutritious than the dietetic articles taken from the animal kingdom, but the nutriment they afford is milder and more benign: it is ſaid that gouty and other chronical diſorders, which are palliated or

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(a) The nutrimental matter in grain and other vegetables is, 1. ſtarch, which yields in analyſis the ſame principles with honey, ſugar, manna; viz. an acid, and an oil, which ſinks: 2. glutinous vegeto-animal matter; the dark coloured ſubſtance which in ſtarch-making ſettles on the ſurface of the white, and is taken off for feeding hogs; of the ſame nature with the caſeous part of milk; not ſoluble in water or ſpirit; yielding in analyſis no acid, but a volatile alkaline ſpirit and ſalt, and an oil which ſwims.— Starch is the ſame ſubſtance in all vegetables containing it: feculæ of arum root, bryony, iris, dandelion, American manioc or yacca, freed from the poiſonous juice, is an identical matter with ſtarch of wheat.—The glutinous matter is likewiſe the ſame in all vegetables. From juices of herbs, heated, a green fecula ſeparates; from which ſpirit extracts green reſin, of the ſame general properties with other reſins, leaving behind a pure glutinous vegeto-animal ſubſtance. The fecula which ſeparates firſt, or with leaſt heat, is richeſt in tinging reſin; the next, in the glutinous matter. Repeated digeſtion in large quantities of ſpirit is neceſſary for complete ſeparation. *Rouelle, &c. Journ. de Med.* 1773.

relieved by uſing milk for the only aliment, receive like relief from farinaceous aliments, provided the ſtomach is ſufficient for their digeſtion *(a)*. In all caſes, they are a neceſſary addition to animal food; and are, perhaps, the beſt correctors of the putrid diſpoſition which animal ſubſtances of themſelves would produce. The alimentary animal ſubſtances, which of themſelves run into high putrefaction, undergo, when mixed with the *farinacea*, a reſolution of another kind; the mixture tending, not to a putrid, but to an acid ſtate *(b)*. Theſe mixtures appear to be ſooner reſoluble than either the animal or vegetable matter ſeparately: probably they are eaſier alſo of digeſtion in the ſtomach.

Among the common kinds of grain, rice is accounted the mildeſt and moſt nutritious, and ſuppoſed to be particularly ſerviceable in dyſenteries and diarrhœas. It is leſs viſcous than wheat, or of leſs tenacity when boiled with water. It ſwells to a larger bulk in water than any other grain.

Wheat, whether in the form of flour or of ſtarch, is perhaps the moſt glutinous of all the farinacea. The viſcous ſubſtance which the flour forms with milk, is often a ſalubrious aliment in fluxes and catarrhs. The ſtarch is uſed medicinally for the ſame intentions, in powders, mixtures, and other forms: a dram of ſtarch, with three ounces of any agreeable ſimple water, and a little ſugar, compoſe an elegant gelly, of which a ſpoonful may be taken every hour or two. Theſe gelatinous mixtures are likewiſe an uſeful injection in ſome diarrhœas, particularly

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(a) Vide Malouin, *Chimie medicinale, part.* iii. *chap.* 2. *tom.* i. *p.* 234.

(b) See Dr. Pringle's experiments on this ſubject, in the appendix to his *obſervations on the diſeaſes of the army.*

where the lower inteſtines have their natural mucus abraded by the flux, or are conſtantly irritated by the acrimony of the matter.

Oats are reckoned to be leſs viſcous, and leſs nutrimental, than the two preceding.

Barley is leſs nutrimental, leſs glutinous, more cooling, more eaſily reſoluble by fermentation, and probably in the ſtomach alſo, than either of the foregoing. Among the ancients, decoctions of it were the principal medicine, as well as aliment, in acute diſeaſes; and from the common uſe of ſhelled barley, *ptiſana*, in that form, other preparations of this kind, though made with different ingredients, have been often diſtinguiſhed by the ſame name. The barley is freed from the ſhell in mills, and in this ſtate called French or Scotch barley. A ſort of ſhelled barley has been commonly brought from Holland in ſmall round grains, called from their pearly whiteneſs, *hordeum perlatum*, or pearl barley * *(a)*.

Decoctions of the *farinacea* in water, containing only their lighter and more agreeable parts, are very uſeful diluents in acute and other inflammatory diſeaſes: however trivial preparations of this kind may appear to be, they are often, in theſe caſes, medicines of primary importance. The moſt elegant and grateful beverage is prepared from pearl barley, by waſhing, for example, two ounces of it, from the mealy matter that adheres, with cold water; then boiling it with about half a pint of freſh water, which will acquire ſome tinge, and is to be thrown away; and

Decoct. hordei *Ph. Lond.*

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* *(a)* Maiz, with water forms the moſt gluey viſcid ſubſtance of any of the farinacea. We have never been able to make it undergo ſuch a fermentation as to have the friability of our grains. *Cullen, Mat. Med.*

afterwards putting the barley into two quarts of boiling water, and continuing the coction till one half is waſted.

An infuſion or decoction of well toaſted bread is likewiſe a very agreeable diluent, of the aſtringent kind. In the cholera morbus, or bilious vomitings and purgings, it is often retained by the ſtomach when other liquors and medicines are rejected; and in ſeveral inſtances, by being drank plentifully, has effected a cure.

Bran, conſiſting of the huſks or ſhells of the grain, with a portion of its farinaceous matter, is ſuppoſed to have a laxative and detergent quality. Decoctions of it ſweetened with ſugar, are uſed by the common people, and ſometimes with good ſucceſs, againſt coughs.

* Wort. Dr. Macbride, in his very ingenious *Experimental Eſſays*, having laid down as a principle, "that the *cure* of the *ſcurvy* depends on the *fermentative quality* in the remedies made uſe of," was led to inquire after a ſubſtance, capable of being preſerved during a long ſea voyage, and yet containing materials by which a fermentation might be occaſionally excited in the bowels. Such an one appeared to him to be found in *malt*, which is well known to be the grain of barley, brought ſuddenly to a germinating ſtate by heat and moiſture, and then dried, whereby its ſaccharine principle is developed, and rendered eaſy of extraction by watery liquors. The ſweet infuſion of this, called *wort*, he propoſed to give as a dietetic article to ſcorbutic perſons, expecting that it would ferment in their bowels, and give out its *fixed air*, by the antiſeptic powers of which the ſtrong tendency to putrefaction in this diſeaſe might be corrected.

It was ſome time before a fair trial of this propoſed remedy could be obtained; and different reports were made concerning it. By ſome caſes, however, publiſhed in a poſtſcript to the ſecond edition of the Doctor's work, in 1767, it appears that ſcorbutic complaints of the moſt dangerous kind have actually been *cured at ſea* by the uſe of wort. Its general effects were to keep the patients open, and to prove highly nutritious and ſtrengthening. It ſometimes purged too much, but this effect was eaſily obviated by the *tinctura thebaica*. Other unqueſtionable caſes of its ſucceſs in this diſeaſe are to be ſeen in Vol. v. of the *London Med. Eſſ. and Inq.*

The uſe of wort has hence been adopted in other caſes where a ſtrong putrid diſpoſition in the fluids appeared to prevail, as in cancerous and phagædenic ulcers; and inſtances are publiſhed in the fourth volume of the work abovementioned of its remarkable good effects in theſe caſes.

As the efficacy of the malt infuſion depends upon its producing changes in the whole maſs of fluids, it is obvious that it muſt be taken in large quantities for a conſiderable length of time; and rather as an article of diet than medicine. From one to four pints daily have generally been directed. The proportion recommended in preparing it, is one meaſure of ground malt to three equal meaſures of boiling water. The mixture muſt be well ſtirred, and left to ſtand, covered, three or four hours. It ſhould be made freſh every day.

FULIGO.

FULIGO LIGNI Pharm. Edinb. Wood soot: the ſmoke of burning wood condenſed into a ſhining black concrete.

Wood soot has a diſagreeable ſmell, and a pungent, bitter, nauſeous taſte: the more reſinous the wood, the bitterer is the ſoot. On a chemical analyſis, it is reſolved into a volatile alkaline ſalt, an empyreumatic oil, a fixt alkali, and an inſipid earth. The volatile ſalt and ſpirit are ſometimes kept in the ſhops, and have in ſome caſes been preferred to thoſe of the animal kingdom.

Wood ſoot is directed in hyſteric caſes, and in different nervous diſorders, as an antiſpaſmodic and corroborant. It is uſed chiefly in the form of a ſpirituous tincture, in conjunction, commonly, with aſafetida or other materials of ſimilar intention: the officinal tincture is drawn from two ounces of ſoot and one of aſafetida, with a pint of proof and a pint of rectified ſpirit. The virtues of the ſoot are extracted, almoſt equally, by proof ſpirit, rectified ſpirit, and water; each of which, if the ſoot is of a good kind, diſſolves about one fourth of it. The extracts, obtained by inſpiſſating the filtered ſolutions, are exceſſively bitter: the ſpirituous extract retains moſt perfectly the peculiar flavour of the ſoot.

Tinct. fulig. *Ph. Ed.*

FUMARIA.

FUMARIA Pharm. Edinb. Fumaria officinarum & dioſcoridis C. B. Fumaria officinalis Linn. Fumitory: a plant with bluiſh green finely divided leaves; producing towards the tops of the ſtalks, oppoſite to the leaves, ſpikes of irregular purpliſh flowers followed each by a ſingle ſeed. It is an annual weed in ſhady grounds, and flowers in May and June.

The leaves of fumitory are very juicy; of a bitter, ſomewhat ſaline taſte; and no remarkable ſmell. The expreſſed juice, and a decoction of the leaves in water, inſpiſſated to the conſiſtence of extracts, are very bitter, and conſiderably ſaline: on ſtanding for ſome time, they throw up to the ſurface copious ſaline efflorеſcences, in figure ſomewhat reſembling the cryſtals of nitre, to the taſte bitteriſh and ſlightly pungent. A tincture of the dry leaves in rectified ſpirit yields, on inſpiſſation, an extract, leſs in quantity, and bitterer in taſte, than either the watery extract or inſpiſſated juice; no ſaline matter ſeparated from this extract, nor did it appear to the taſte any other than ſimply bitter.

This herb is recommended as an aperient and reſolvent, in obſtructions of the viſcera, in ſcorbutic and cutaneous maladies: Hoffman has a high opinion of it as a purifier of the blood, and gives it the preference to all the other herbs made uſe of in that intention (*a*). It appears from the above analyſis to be a plant of no inconſiderable virtue, though at preſent a ſtranger to practice: its ſenſible operation is by looſening the belly and promoting urine.

(*a*) *De præſtantia remediorum domeſticorum*, § 19.

GALANGA.

GALANGA MINOR C. B. Wanhom Kæmpfer amænitat. exot. GALANGAL or LESSER GALANGAL: the root of a graſſy-leaved plant, *(Kæmpferia Galanga Linn.)* brought from China and the Eaſt Indies, in pieces about an inch long and ſcarce half ſo thick, branched, full of knots and joints with ſeveral circular rings, of a reddiſh brown colour on the outſide and a pale reddiſh within. We ſometimes meet with a larger root of the ſame kind, an inch or more in thickneſs, under the name of *galanga major:* this is to be rejected, as being much weaker, yet more diſagreeable, than the ſmall.

GALANGAL ROOT has an aromatic ſmell, not very grateful; and an unpleaſant, bitteriſh, hot, biting taſte. It was formerly in common uſe as a warm ſtomachic bitter, and generally made an ingredient in bitter infuſions; but is now almoſt wholly laid aſide, on account of its unpleaſant flavour. Nor indeed does bitterneſs appear to be its proper medical character; the heat and pungency greatly prevailing. An extract made from it with rectified ſpirit is exceſſively fiery, ſetting the mouth as it were in a flame: the watery extract is likewiſe very hot and pungent, though much leſs ſo than the ſpirituous, its quantity being about three times as large: neither one nor the other extract diſcovers any great bitterneſs. In diſtillation with water, there ariſes an eſſential oil, to the quantity of about a dram from ſixteen ounces, of little ſmell, and of no great pungency. The pungent matter of the galangal appears from theſe experiments to be of the ſame nature with that of pepper; reſiding, not in the volatile oil, but in a more fixt matter.

GALBANUM.

GALBANUM Pharm. Lond. & Edinb. Galbanum: the concrete gummy-reſinous juice of an evergreen umbelliferous plant growing in Ethiopia, *ferula africana galbanifera foliis & facie liguſtici Herman. par. bat. Bubon Galbanum Linn.* It is brought to us in pale coloured, ſemitranſparent, ſoft, tenacious maſſes: the better ſorts of which, on being opened, appear compoſed of clear whitiſh tears, often intermixed with little ſtalks or ſeeds of the plant. By age it grows yellowiſh or brown.

This juice has a ſtrong unpleaſant ſmell, and a bitteriſh, warm, ſomewhat biting taſte. In medical virtue, as in its ſenſible qualities, it is ſimilar to ammoniacum; but is generally accounted leſs efficacious in aſthmatic diſorders, and more ſo on account of its ſtronger flavour, in hyſteric caſes.

Galbanum, like the other gummy reſins, unites with water, by trituration, into a milky liquor; but does not perfectly diſſolve, as ſome have reported, in water, vinegar, or wine. Rectified ſpirit takes up much more than either of thoſe menſtrua, but not the whole: the tincture is of a bright golden colour. A mixture of two parts of rectified ſpirit and one of water diſſolves all but the impurities, which are commonly in conſiderable quantity. The London college have now directed an officinal tincture of galbanum, made by digeſting two ounces of the gum in a quart of proof ſpirit for eight days. It is beſt purified by including it in a bladder, and

Tinct. galbani *Ph. Lond.*

Galbanum purificatum *Ph. Lond.*

and keeping it in boiling water till it melts or becomes ſoft enough to be ſtrained, by preſſure, through a hempen cloth: if this proceſs be ſkilfully managed, the galbanum loſes but little of the eſſential oil, in which great part of its virtue conſiſts, and which appears to be carried off in evaporation both by water and ſpirit. In diſtillation with water, the oil ſeparates and riſes to the ſurface, in colour yellowiſh, in quantity about one twentieth of the weight of the galbanum: in this reſpect it differs from ammoniacum, which has not been obſerved to yield any eſſential oil. From that and the other common gummy reſins it differs alſo in regard to the appearance of the empyreumatic oil obtained by diſtillation in a retort without addition; the empyreumatic oil of galbanum being, as Neumann obſerves, of a blue colour, which changes in the air to a purple.

GALLÆ.

GALLÆ Pharm. Lond. & Edinb. GALLS: hard roundiſh excreſcences, found in the warmer countries, on the oak tree; produced from the puncture of an inſect, and affording a lodgment for its young till they are capable of eating a paſſage through: thoſe galls, which have no hole, are found to have the dead inſect remaining in them. Two ſorts are diſtinguiſhed in the ſhops, one ſaid to be brought from Aleppo, the other from ſome of the ſouthern parts of Europe. The former are generally of a bluiſh colour, or of a greyiſh or blackiſh verging to bluneſs, unequal and warty on the ſurface, hard to break, and of a cloſe compact texture: the others are of a pale browniſh or whitiſh colour, ſmooth, round, eaſily broken, leſs compact, and of a much larger ſize. The two ſorts differ in ſtrength, but in other reſpects appear to be of the ſame quality: the Aleppo or blue galls are the ſtrongeſt, two parts of theſe being equivalent to at leaſt three of others.

This excreſcence is a ſtrong aſtringent; one of the ſtrongeſt of thoſe of the vegetable kingdom. It has no ſmell, or particular flavour; ſimple aſtringency being its medical character. The cortical hard part of the gall appears conſiderably ſtronger than the interiour more brittle matter. The virtue of both is taken up by watery and by ſpirituous menſtrua: on inſpiſſating the tinctures, both the water and ſpirit riſe unflavoured, leaving extracts of intenſe ſtypticity: the ſpirituous extract is in ſmaller quantity than the watery, and ſomewhat ſtronger in taſte. The galls in ſubſtance have been given in ſmall doſes in different diſorders proceeding from relaxation, and recommended by ſome in intermitting fevers, in doſes of half a dram and a dram; but it is ſurely imprudent to venture on ſuch large quantities, of ſo ſtrong an aſtringent. Among us they are employed chiefly as an external ſtyptic, in embrocations and injections. * An ointment made with one part of powdered galls and eight of hogs lard is a vulgar remedy for the hæmorrhoids in Scotland, and has been found efficacious. (a).

GALLIUM.

GALLIUM luteum C. B. Galium verum Linn. Ladies bedstraw: a plant with ſquare ſtalks, and long narrow ſoft leaves, ſtanding generally eight at a joint in form of a ſtar: on the tops, and on ſhort pedicles iſſuing from among the leaves, grow thick cluſters of ſmall young monopetalous bell-ſhaped flowers, divided, each, into four ſegments, and followed by two ſeeds. It is perennial, common in dry waſte grounds, and flowers in June and July.

(a) Cullen's *Mat. Med. vol.* ii. *p.* 46. *edit.* 1789.

The flowers of this plant have a moderately ſtrong, not diſagreeable ſmell; the leaves, little or none. They both diſcover to the taſte a ſenſible acidity; which they manifeſt alſo by changing the juices of blue flowers to a red, and by coagulating boiling milk: they are ſaid to be, in ſome places, commonly made uſe of in this laſt intention, whence one of the common names of the plant, cheeſe-rennet. Their acid matter appears to be, if Borrichius's experiment is to be depended on, of a more ſubtile kind than that of ſorrel, and than the other native vegetable acids that have been examined; the flowery tops, committed to diſtillation as ſoon as gathered, giving over a pretty ſtrong acid liquor, in a moderate heat, wherein ſorrel yielded only an inſipid phlegm *(a)*. The reſtringent and refrigerating virtues, aſcribed to this plant, appear from theſe experiments to have ſome foundation.

GAMBOGIA.

GAMBOGIA Pharm. Lond. & Edinb. Gummi gutta, gamandra, gamma, jemu, &c. Cambogia gutta Linn. Gamboge: the concrete gummy-reſinous juice of certain trees growing

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(a) Acta medica & philoſophica Hafnienſia, vol. i. *obſ.* 69.

in Cambogia or Cambodia and ſome other parts of the Eaſt Indies: brought over in large cakes or rolls, externally of a browniſh yellow, internally of a deep reddiſh yellow or orange colour, changing to a pale bright yellow on being moiſtened.

THIS juice has no ſmell, and when firſt chewed makes but little impreſſion on the organs of taſte: kept in the mouth for ſome time, it diſcovers a conſiderable acrimony. Rectified ſpirit of wine, poured upon it, acquires immediately a deep gold colour, and diſſolves about five parts out of ſix. Water, aſſiſted by heat, takes up nearly as much; but the ſolution is turbid, and depoſites, on cooling, a conſiderable quantity of reſinous matter. Water, impregnated with fixt alkaline ſalt, totally diſſolves it into a tranſparent blood-red liquor, which paſſes through a filter without any ſeparation of its parts, and depoſites no ſediment on ſtanding. It is wholly taken up likewiſe, and in conſiderable quantity, by vinous ſpirits impregnated with volatile alkalies, or the dulcified ſpirit of ſal ammoniac: this ſolution mingles uniformly both with water and rectified ſpirit, without precipitation or turbidneſs.

Gamboge is a ſtrong and quick cathartic; producing copious evacuations, and uſually finiſhing its operation ſoon. In ſuch hydropic caſes as require the briſker cathartics, and in other diſorders accompanied with a redundance of ſerous humours, it is an uſeful and ſafe hydragogue: in hot, dry, bilious conſtitutions, it is never to be ventured on: in all caſes, it is liable, on firſt uſing it, to vomit as well as purge. The doſe is from three or four grains to twelve, or at moſt fifteen.

This medicine is moſt diſpoſed to act upwards, when given in the ſolid form of a bolus or pill: by joining to it mercurius dulcis, its emetic power is generally reſtrained. It is principally made uſe of in conjunction with that mercurial preparation and with other purgative materials. Solutions of gamboge in alkalized water, and in dulcified alkaline ſpirits, act only by ſtool and urine, and with much greater mildneſs than the juice in ſubſtance. The watery tincture is ſtill milder, the menſtruum diſſolving only a part of the reſin: the ſpirituous tincture operates with extreme irritation both upwards and downwards.

* Dr. Cullen ſays, that on account of the quick paſſage of gamboge through the inteſtines, he was induced to give it in ſmall and frequently repeated doſes, as three or four grains rubbed with a little ſugar, every three hours; and thus found it operate without griping or ſickneſs, and in three or four exhibitions evacuate a great quantity of water both by ſtool and urine. *Mat. Med.* ii. 542. *edit.* 1789.

GENISTA.

GENISTA Pharm. Lond. & Edinb. Geniſta anguloſa & ſcoparia C. B. Spartium ſcoparium Linn. BROOM: a ſhrubby plant; with numerous, ſlender, angular, tough twigs; ſmall, ſomewhat oval leaves, ſet three on one pedicle; and deep yellow papilionaceous flowers, which are followed by broad pods, containing hard browniſh flat ſeeds. It is common on heaths and uncultivated ſandy grounds, and flowers in May and June.

The leaves and ſtalks of broom have a nauſeous bitter taſte; which they give out, by infuſion, both to water and rectified ſpirit; and which, on gently inſpiſſating the filtered liquors, remains concentrated in the extracts: the watery tincture is of a yellowiſh green or browniſh, the ſpirituous of a dark green colour. They are accounted laxative, aperient, and diuretic; and in this intention have been often uſed by the common people in dropſies and other ſerous diſorders. Dr. Mead relates a caſe of an hydropic perſon, who, after the paracenteſis had been thrice performed, and ſundry purgatives and diuretics had been tried without relief, was perfectly cured, by taking, every morning and evening, half a pint of a decoction of green broom tops with a ſpoonful of whole muſtard ſeed: by this medicine, the thirſt was abated, the belly looſened, and the urinary diſcharge increaſed to the quantity of at leaſt five or ſix pints a day *(a)*. * The watery extract is received as an officinal by the London college.

Extr. cacuminis geniſtæ *Ph. Lond.*

Infuſions of the aſhes of the plant in acidulous wines have likewiſe been employed in the ſame intention, and often with good ſucceſs. The virtue of this medicine does not depend, as ſome have ſuppoſed, on any of the peculiar qualities of the broom remaining in the aſhes; but on the alkaline ſalt and earth, which are the ſame in the aſhes of broom as in thoſe of other vegetables, combined, wholly or in part, with the vinous acid. A ſolution even of the pure earthy part of vegetable aſhes, made in vegetable acids, proves notably purgative and diuretic.

(a) Monita & præcepta medica, p. 138.

Of the ſeeds and flowers, the medicinal qualities are not well known. It is ſaid that the ſeeds, in doſes of a dram and a half in ſubſtance, and five or ſix drams in decoction or infuſion, prove purgative or emetic. Some report that the flowers alſo operate in the ſame manner, but Lobel aſſures us, from his own obſervation, that they have been taken in quantity, without producing any ſuch effect; and I have known infuſions of the flowery tops drank freely in ſome aſthmatic caſes, without any other ſenſible operation than a ſalutary increaſe of urine and expectoration. The ſeeds, ſlightly roaſted, are uſed in ſome places as coffee, and ſaid to act as diuretics.

GENTIANA.

GENTIANA Pharm. Lond. & Edinb. Gentiana major lutea C. B. Gentiana lutea Linn. GENTIAN: a plant with an unbranched jointed ſtalk, and oblong acuminated ribbed leaves ſet in pairs at the joints upon broad pedicles: the flowers, which ſtand in cluſters round the ſtalk in the boſoms of the upper leaves, are of a pale yellow colour, ſomewhat bell-ſhaped, deeply cut into five ſegments, followed by oblong capſules full of ſmall ſeeds: the root is moderately long, ſlender, branched, browniſh on the outſide, of a reddiſh yellow or gold colour within. It is perennial, a native of the mountainous parts of Germany, &c. from whence the ſhops are generally ſupplied with the dried roots.

Among the gentian brought to London ſome years ago, a root of a different kind was mixed: the uſe of which occaſioned violent diſorders, and in ſome inſtances, as is ſaid, proved fatal. This root is externally of a paler colour than gentian, and its longitudinal wrinkles finer and cloſer: on cutting the two roots, the difference is more remarkable, the poiſonous root being white, without any degree of the yellow tincture which is deep in gentian; nor is its taſte bitter, like that of gentian, but mucilaginous.

Gentian root is a ſtrong flavourleſs bitter; in taſte leſs exceptionable than moſt of the other common ſtrong bitters, and hence among us moſt generally made uſe of. The flavour and aromatic warmth, wanting to render it grateful, and acceptable to the ſtomach, are ſupplied by additions. An ounce of the gentian root, with the ſame quantity of freſh lemon peel, and a dram and a half of dried orange peel, infuſed for an hour or two in three quarters of a pint of boiling water, make a very elegant bitter. The lemon peel is an excellent addition in the watery infuſions, but the periſhableneſs of its flavour excludes it from ſpirituous tinctures deſigned for keeping. The Edinburgh college have directed an addition of ſpirits to their bitter infuſion, which is made of half an ounce of gentian root, one dram of dried orange peel, and half a dram of coriander ſeeds, infuſed in a quarter of a pint of proof ſpirit, and a pint of water. The bitter tinctures are commonly prepared, by macerating an ounce of the root, for ſome days in a pint of proof ſpirit, with four drams of dried orange peel and two of leſſer cardamom ſeeds; or in a pint and quarter of proof ſpirit, with the above quantity of orange peel, two drams of canella alba, and fifteen grains of cochineal. Wines and malt liquors are likewiſe impregnated with the ſame or ſimilar materials, in different proportions: an ounce of the gentian root, the ſame quantity of freſh lemon peel, and

Infuſ. gentian. comp. *Ph. Lond.*

Infuſ. amar. *Ph. Ed.*

Tinct. gentian. comp. *Ph. Lond.*

Tinctura amara, *ſive* Elixir ſtomachic. *Ph. Ed.*

Vinum amar.

and two drams of long pepper, communicate, by maceration without heat, a grateful warmth and bitterneſs to a quart of mountain. The virtue of the root is extracted by all theſe menſtrua, as alſo by rectified ſpirit; not totally, however, by any, in the above proportions; and not in ſo great a degree by water as by ſpirit. The tincture in rectified ſpirit is of an orange yellow colour: inſpiſſated, it yields an intenſely bitter extract, the ſpirit riſing unflavoured. The watery infuſions are of a dark browniſh red; and leave, on being inſpiſſated, an extract, in larger quantity, and leſs bitter, than the other. Theſe extracts are made into pills, by themſelves, or with aromatic additions.

Extractum gentianæ *Ph. Lond. & Ed.*

The German ephemerides mention a root brought from America by the Portugueze, under the name of *Indian gentian*; of a pale yellowiſh colour, jointed, marked with various knots and circles like ipecacoanha; of a penetrating aromatic bitterneſs, not ungrateful, though far more intenſe than the bittereſt of the officinal bitter drugs. This root is greatly commended in obſtinate intermittents, and many other diſorders: a ſcruple is ſaid to do more than repeated half drams of bark*(a)*.

* *GEOFFRÆA.*

GEOFFRÆA Jamaicenſis inermis Dris. Wright. Geoffræa Pharm. Edinb. CABBAGE BARK, or WORM-BARK TREE. This is a tree growing abundantly in the low ſavannahs of Jamaica, of a conſiderable height, but no great thickneſs. It has

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(a) Michael Schendo, *Acta phyſico-medica acad. nat. curioſ. vol.* i. *anno* 1727. *Append. p.* 112.

has a ſtraight ſmooth trunk, and ſends off its branches near the top. It bears dark green leaves, and roſe-coloured flowers of the papilionaceous kind, ſet in purple flower-cups. Theſe are ſucceeded by a green hard fruit, of the ſize of a ſmall plum, having a ſkin the thickneſs of a crown piece, and a nut within.

The bark of this tree is externally of a grey colour, black and furrowed on the inſide. To the taſte it is mucilaginous and ſweetiſh. It ſmells diſagreeably, whence it has been called by ſome the *bulge-water tree.* It has been long a celebrated anthelmintic in the Weſt Indies, and has lately been introduced into European practice.

The firſt account we meet with of its uſe is in a letter from Mr. Duguid, in Vol. ii. of *Eſſays Phyſical and Literary*. Several ſubſequent accounts appeared in different numbers of the *Medical Commentaries*. But the fulleſt relation, together with an accurate botanical deſcription of the plant, is given by Dr. William Wright in the *Philoſophical Tranſactions*, Vol. lxxvii. Part II.

The bark is uſed in the ſeveral forms of decoction, ſyrup, powder and extract. For making the decoction, an ounce of freſh-dried bark is to be boiled ſlowly in a quart of water, till the liquor be of the colour of Madeira wine. This is to be ſtrained off for uſe. The ſyrup is made by adding a ſufficient quantity of ſugar to this decoction. By evaporating the decoction, the extract is formed, which muſt be carefully ſtirred during the proceſs, to prevent the reſinous part from riſing to the top. The decoction is generally preferred in Jamaica, and ſeems to be the moſt efficacious as an anthelmintic.

As this medicine is rather a violent one, it ſhould always be exhibited at firſt in ſmall doſes. The moſt immediate effect of theſe is to produce nauſea, which is ſucceeded by briſk purging, eſpecially when the powder is given. If cold water is drank during its operation, it is apt to occaſion ſickneſs, vomiting, fever, and delirium. Theſe ſymptoms, whether occaſioned by this cauſe, or by an over doſe, are removed by waſhing the ſtomach with warm water, purging with caſtor oil, and giving plenty of drink acidulated with vegetable acid, which laſt ſeems a kind of ſpecific againſt its deleterious effects. The manner in which Mr. Anderſon, the writer of a paper concerning it in vol. iv. of the *Medical Commentaries*, recommends its exhibition, is to give gradually augmented doſes of the decoction for eight or nine mornings ſucceſſively, and then a doſe of jalap and calomel, which ſeldom fails to bring away the worms, ſome dead, and ſome alive. This writer alſo remarks, that there are two kinds of the bark, one much paler than the other, which acts with greater violence.

GERANIUM.

GERANIUM Pharm. Pariſ. CRANESBILL: a plant, ſo called from the remarkable long beak of its ſeed-veſſel, which conſiſts of five capſules opening inwards, and containing each a ſingle ſeed: the flowers are pentapetalous.

1. GERANIUM SANGUINARIUM *ſeu hæmatodes. Geranium ſanguineum maximo flore C. B. Geranium ſanguineum Linn.* Bloody craneſbill: with ſolitary flowers, on their firſt appearance red,

but ſoon changing to a bluiſh; the leaves roundiſh, but divided almoſt to the pedicle into five ſegments, which are often ſubdivided at the extremities into three.

2. Geranium columbinum *ſive Pes columbinus. Geranium folio malvæ rotundo C. B. Geranium rotundifolium Linn.* Dovesfoot: with purple flowers ſtanding two on one pedicle; and mallow-ſhaped leaves on long footſtalks.

3. Geranium batrachioides *ſive Batrachium. Geranium batrachioides gratia dei germanorum C. B. Geranium pratenſe Linn.* Crowfoot craneſbill: with two blue (ſometimes white) flowers on one pedicle: and large wrinkled leaves, divided into five or ſeven ſegments, which are again deeply cut on the edges.

4. Herba roberti *ſive Gratia dei. Geranium robertianum C. B. & Linn.* Herb-robert: with two reddiſh or purpliſh flowers on one pedicle; the leaves divided quite to the footſtalk into three ſegments; and theſe again deeply cut.

5. Geranium moschatum *ſive Acus moſchata. Geranium cicutæ folio moſchatum C. B. Geranium moſchatum Linn.* Muſk craneſbill: with a number of red flowers on one pedicle; and oval indented leaves, ſet in pairs along a middle rib, which is terminated by an odd one.

All theſe plants are found wild in different parts of this kingdom: the four firſt are common, the laſt rare. They flower in May, June, and July; the fourth earlieſt, the firſt lateſt. The ſecond and fifth are annual, the fourth biennial, the others perennial.

The above geraniums, formerly ranked among the officinals, and many other plants of the ſame genus, indigenous or commonly cultivated; diſcover to the taſte a conſiderable aſtringency, and ſtrike an inky blackneſs with ſolution of chalybeate vitriol: ſome of them are, apparently, of the ſtronger kind of vegetable ſtyptics. The three firſt ſorts have no great ſmell; the fourth, an unpleaſant one, ſomewhat like that of the dead nettle, but ſtronger; the fifth has an agreeable muſky ſcent, which is deſtroyed by bruiſing the plant. The odoriferous principle is ſeparated by diſtillation with water, and gives a moderate impregnation to the diſtilled fluid; but no eſſential oil was obtained on ſubmitting to the operation moderate quantities either of the fetid or the muſky ſorts. The ſtyptic matter is extracted both by water and rectified ſpirit; and on evaporating the filtered liquors, remains entire in the inſpiſſated extracts: the watery infuſions are yellowiſh or browniſh, the ſpirituous tinctures of a deep green colour. The watery extracts, thoſe at leaſt of the ſecond and fourth kinds, on ſtanding for ſome weeks, throw off to the ſurface a conſiderable quantity of ſmall ſaline cryſtals, in ſhape ſomewhat like thoſe of nitre, in taſte auſtere and bitteriſh. From theſe experiments it may be preſumed, that the geraniums have no ill claim to the vulnerary, that is, aſtringent virtues, commonly aſcribed to them, as in alvine fluxes, hemorrhagies, defluxions on the breaſt, &c.*(a).

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*(a) Our hoſt at Carliſle told us, that he uſed to be troubled with the ſtone, and the beſt remedy he ever had experience of to give him eaſe was the decoction of geranium robertianum. *Ray's remains*, publiſhed by *Scott*, 1760.

GINSENG.

GINSENG Pharm. Lond. & Edinb. Aureliana canadenſis, ſinenſibus ginſ-eng, iroquæis garent-oguen, Lafiteau memoir. ſur le ginſ. Panax quinquefolium Linn. GINSENG: the root of a ſmall plant; growing in China, Tartary, and likewiſe in ſome parts of North America, particularly Canada and Penſylvania, from whence conſiderable quantities have lately been brought over. It is two or three inches in length; taper; about the thickneſs of the little finger, or leſs, in the thickeſt part; often forked at bottom; elegantly ſtriated with circular wrinkles; of a browniſh or yellowiſh colour on the outſide, and whitiſh or of a pale yellowiſh within: on the top are commonly one or more little knots or tubercles, which are the remains of the ſtalks of preceding years, and from the number of which, the age of the root is accordingly judged of.

On comparing the American roots with ſome ſpecimens received from Nankin, no material difference could be obſerved between them, either in their external appearance or in their quality; except that the Chineſe were in general ſomewhat paler coloured on the outſide, and internally rather whiter. It is ſaid that in China, the roots, taken up in ſpring or autumn and carefully cleaned from the fibres, are waſhed and ſoaked for a time in a decoction of rice or millet-ſeed, and afterwards expoſed to the ſteam of the liquor; that by this means they acquire a greater firmneſs and clearneſs than they have in their natural ſtate; that nevertheleſs the American roots were received and purchaſed as true ginſeng in China itſelf, though without the ſuppoſed advantage of the Chineſe preparation.

Ninzin or *Nindſin* has been commonly ſuppoſed a name ſynonymous to ginſeng. It appears from later obſervations, that the ninzin is the root of a different plant (a) which is cured in the ſame manner, and very nearly reſembles the ginſeng, but is ſuppoſed to be of weaker virtue. This alſo is a native of America as well as China. It is called by Kæmpfer, *ſiſarum montanum coræenſe, radice non tuberoſo*; by Linnæus, *ſium foliis ſerratis pinnatis ramis ternatis.*

Ginseng root, a medicine of extraordinary eſteem among the Chineſe as a general reſtorative and corroborant, though undoubtedly very far unequal to the character that has been commonly given of it, promiſes nevertheleſs, from its ſenſible qualities, to be an uſeful addition to the officinal drugs. To the taſte it diſcovers a mucilaginous ſweetneſs, approaching to that of liquorice, accompanied with ſome degree of bitteriſhneſs, and a ſlight aromatic warmth; with little or no ſmell. It is far ſweeter, and of a more grateful kind, than the roots of fennel, to which it has by ſome been ſuppoſed ſimilar; and differs likewiſe remarkably from thoſe roots, in the nature and pharmaceutic properties of its active principles; the ſweet matter of the ginſeng being preſerved entire in the watery as well as in the ſpirituous extract, whereas that of fennel roots is deſtroyed or diſſipated in the inſpiſſation of the watery tincture. The ſlight aromatic impregnation of the ginſeng is likewiſe in good meaſure retained in the watery extract, and perfectly in the ſpirituous; which laſt is a very pleaſant, bitteriſh, warm ſweet.

(a) See Juſſieu's paper on this ſubject in Geoffroy's *tract. de mat. med.* ii. 112.

GLYCYRRHIZA.

GLYCYRRHIZA Pharm. Lond. & Edinb. Glycyrrhiza ſiliquoſa vel germanica C. B. Glycyrrhiza glabra Linn. LIQUORICE: a plant with oval leaves, ſet in pairs along a middle rib; and ſmall bluiſh papilionaceous flowers, ſtanding in ſpikes, on naked pedicles, at the junctures of the ribs of the upper leaves with the ſtalk: the flower is followed by a ſmooth pod containing flat kidney-ſhaped ſeeds: the root is very long, ſlender, flexible, of a browniſh colour on the outſide and yellow within. It is perennial, a native of the ſouthern parts of Europe, and plentifully cultivated in England: the roots are fit for being taken up in the third year after the ſlips or offsets have been planted. The liquorice root of our own growth is no wiſe inferiour to that which is produced in its native climate. The root carefully dried and powdered, is of a richer and more agreeable taſte than when freſh, and of a dull yellow colour with a caſt of brown: the liquorice powder commonly ſold is of a weaker taſte, and a paler and bright yellow colour, from an admixture probably of other ſubſtances.

LIQUORICE, one of the principal ſweets, is almoſt the only one of the common ſubſtances of that claſs which tends to abate thirſt: this property was known to the Greeks, who hence diſtinguiſhed it, by the name *adipſon*, and employed it, as Galen obſerves, in hydropic caſes, for alleviating the deſire of drinking. It is an uſeful emollient and incraſſant in defluxions on the breaſt, and ſuppoſed to prove at the ſame time gently detergent. Infuſions and extracts, made from it, afford likewiſe very commodious vehicles or intermedia for the exhibition of other medicines: the liquorice taſte concealing that of unpalatable drugs more effectually than ſyrups or any of the ſweets of the ſaccharine kind. It differs alſo from the ſweets of the ſaccharine or honey kind, from the ſweet juices of fruits, and from the ſweet matter afforded by the common ſorts of grain when beginning to vegetate; in being far leſs diſpoſed to run into a fermentative ſtate. The cortical part of the root is conſiderably ſweeter than the more compact internal ſubſtance, but the ſweet matter appears to be in both of the ſame kind.

Extractum glycyrrhizæ *Ph. Lond.*

Liquorice root, lightly boiled in a little water, gives out nearly all its ſweetneſs: the decoction, preſſed through a ſtrainer, and, after ſettling, carefully inſpiſſated, with a gentle heat, till the matter will no longer ſtick to the fingers, affords an extract exceedingly ſweet, more agreeable than that brought from abroad or prepared among ourſelves in the way of buſineſs, of a pleaſant ſmell, of a dark reddiſh brown colour in the maſs, and when drawn out into ſtrings, of a golden colour: its quantity amounts to near half the weight of the root. If the liquorice be long boiled, its ſweetneſs is greatly impaired, and the preparation contracts an ungrateful bitterneſs *(a)*.

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* *(a)* The extract from the firſt infuſion is bronze yellow, exceedingly ſweet, without any acrid or bitter reliſh: —from a ſecond infuſion, much deeper coloured, and far leſs agreeable:—afterwards, by coclion, a black acrid extract is obtained, in which the taſte of the liquorice can hardly be perceived. *Beaumé.*

Rectified ſpirit takes up the ſweet matter of the liquorice equally with water; and as it diſſolves much leſs of the inſipid mucilaginous ſubſtance of the root, the ſpirituous tinctures and extracts are proportionably ſweeter than the watery: they are accompanied alſo with a ſlight, but very ſenſible, pungency. The quantity of ſpirituous extract amounts only to about one half of the aqueous; and rectified ſpirit, digeſted on the aqueous extract, diſſolves about one half of it, taking up nearly the whole of its ſweetneſs.

GRAMEN.

GRAMEN CANINUM arvenſe ſeu gramen dioſcoridis C. B. Triticum repens Linn. DOGS GRASS, COUCH: a creeping graſs, of a whitiſh green colour, with knotty ſtalks, bearing a ſpike of imperfect flowers ſomewhat reſembling a wheat ear: the roots are whitiſh or pale yellowiſh, long, ſlender, jointed at diſtances, variouſly bent and interwoven. It is a perennial weed.

THE roots of this plant, to the taſte agreeably ſweetiſh, are recommended as mild aperients in obſtructions of the viſcera. Boerhaave directs the expreſſed juice to be taken, in this intention, to the quantity of ſome pints a day; and obſerves, that cattle are generally found to have indurated livers in the winter, but that from freſh graſs in the ſpring a diarrhœa enſues, and the obſtruction is reſolved.

GRANA PARADISI.

CARDAMOMUM MAJUS ſeu grana paradiſi Pharm. Pariſ. Meleguetta & manigu-

etta & cardamomum piperatum quibuſdam. Amomum Grana Paradiſi. Linn. GRAINS OF PARADISE, called by ſome GREATER CARDAMOMS: angular reddiſh brown ſeeds, ſmaller than pepper, in appearance much reſembling cardamom ſeeds, brought from the Eaſt Indies. The grains of paradiſe and cardamom plants belong both to one botanic genus, the *amomum* of Linnæus.

IN pharmaceutical properties, the grains of paradiſe differ greatly from cardamom ſeeds, and greatly reſemble pepper. They have ſomewhat of the flavour of the former, joined to the heat and pungency of the latter; which pungency reſides, not like that of cardamoms in the volatile parts or eſſential oil, but like that of pepper in the reſinous or more fixt matter. The diſtilled oil of grains of paradiſe, in ſmell ſufficiently agreeable, is in taſte of the milder kind: the remaining decoction, inſpiſſated, yields an extract of conſiderable pungency: an extract made by rectified ſpirit is highly fiery. This ſpice is employed in ſome places for the ſame purpoſes as pepper; among us it is rarely directed for medicinal purpoſes.

GRANATA.

GRANATA malus Pharm. Edinb. Malus punica ſativa C. B. Punica granatum Linn. POMEGRANATE: a prickly tree or ſhrub; with long narrow leaves; deep red pentapetalous flowers ſet in bell-ſhaped cups of the ſame colour; producing fruit about the ſize of an orange, which conſiſts of a thick tough rind, externally browniſh and internally yellow, with a juicy pulp and numerous ſeeds in cells like a honeycomb. It is a native of the ſouthern parts of Europe, and rarely brings its fruit to full perfection in this climate.

The flowers of this tree are mild aſtringents, ſimilar to thoſe of the wild pomegranate or balauſtine, which laſt are preferred only on account of their being larger. The pulp of the fruit, when in perfection, is of a grateful ſubacid ſweet taſte, and of the ſame general qualities with the other ſummer fruits. The rind of the fruit is moderately aſtringent, and in this intention is now and then directed, under the names of *cortex granati*†, *malicorium*, *pſidium*, and *ſidium*: it yields with water near half its own weight of a very auſtere extract, but gives out very little to rectified ſpirit, its aſtringent matter, like that of the fruit of the acacia tree, ſeeming to be indiſſoluble in ſpirituous menſtrua: in this reſpect the aſtringency of the fruit differs from that of the balauſtine or flower of the tree.

† *Ph. Lond. & Ed.*

GRATIOLA.

GRATIOLA Pharm. Lond. & Edinb. Gratiola centaurioides C. B. Gratia dei. Gratiola officinalis Linn. Hedge hyssop: a low plant, with oblong finely ſerrated leaves ſet in pairs on the ſtalks without pedicles: in their boſoms come forth ſolitary, whitiſh, tubulous, irregular flowers, followed by roundiſh pointed capſules full of ſmall ſeeds: the root is ſlender, whitiſh, jointed, ſurrounded with fibres. It is perennial, a native of the ſouthern parts of Europe, and raiſed in ſome of our gardens,

The leaves of gratiola have a nauſeous bitter taſte, and no remarkable ſmell. They are ſaid to be a ſtrong hydragogue purgative; to operate upwards as well as downwards; and in weak conſtitutions, to occaſion oftentimes violent gripes or ſuperpurgations. Geoffroy obſerves, that the doſe is an infuſion of half a handful of the freſh, or a dram of the dry herb, in wine or water; that a ſlight decoction of it in milk operates far more mildly; and that an extract made with wine may be given to half a dram or two ſcruples. The roots are leſs ungrateful in taſte, and leſs violent in operation, than the leaves: given in ſubſtance, from a ſcruple to a dram, they are ſaid to vomit and purge, without much inconvenience: in ſome parts of Germany, they are reported *(a)* to be commonly employed in dyſenteries, as ipecacoanha among us.

* In a diſſertation on the medical virtues of this plant, publiſhed at Vienna by a Poliſh phyſician, Jac. Koſtrzewſki, ſeveral caſes are related of its efficacy in maniacal diſorders; and alſo in the venereal diſeaſe, accompanied with ulcerations, in tumours, and fluor albus. In mania, the powder of the root to the quantity of half a dram was given, which conſtantly excited vomiting, purging, and a copious flow of urine. In the other caſes, pills were exhited, compoſed of an extract of gratiola, with ſugar and abſorbent and aromatic powders. This preparation excited a nauſea, but did not vomit. In one venereal caſe a ſalivation was induced by its uſe. On the whole, the author recommends the gratiola as a moſt effectual remedy in all diſorders proceeding from a ſuperabundance of ſerum.

(a) Kramer, *Tentamen botanicum emendat. & auct. Introduct. p.* 18.

GUAIACUM.

GUAIACUM Pharm. Lond. & Edinb. Guaiacum americanum primum fructu aceris ſive legitimum Breyn. prodr. Guaiacum officinale Linn. Guaiacum: a large tree, with roundiſh box-like winged leaves, pentapetalous blue flowers in cluſters, and a maple-like heart-ſhaped fruit including a ſingle ſeed *(a)*, a native of Jamaica, Hiſpaniola, and other warm parts of America; from whence the wood with its bark, and a concrete reſinous juice exuding from inciſions made in the trunk, are brought to us. The wood is called by ſome *lignum vitæ* and *ſanctum.*

The wood is very hard, compact, and ſo heavy as to ſink in water: the outer part is of a pale yellowiſh colour, the heart of a dark blackiſh brown with a greater or leſs admixture of green. It ſcarcely diſcovers any ſmell, unleſs heated, or while raſping; in which circumſtances it yields a light aromatic one: chewed, it impreſſes a mild acrimony, biting the palate and fauces. Its pungency reſides in a reſinous matter, which is totally extracted by digeſtion in rectified ſpirit, and partially by boiling in water: the ſpirituous tinctures are of a deep browniſh red colour, the watery decoctions of dark yellowiſh brown. On inſpiſſating the liquors, nothing of the pungency of the guaiacum exhales or diſtills with either menſtruum: the ſpirituous extract, nevertheleſs, diſcovers but little of the pungent taſte which prevailed in the tincture, proving a tenacious almoſt pure reſin, not diſſoluble in the mouth or miſcible with the ſaliva: the watery extract, which contains likewiſe no ſmall proportion of reſinous matter, diſſolves ſlowly, and then manifeſts a notable degree of pungency. During the inſpiſſation of the watery decoction, the reſinous part is apt to ſeparate and ſubſide, unleſs a little ſpirit be added towards the end of the proceſs to keep it united with the gummy: this extract is kept in the ſhops in a ſoft and a hard form; the firſt of a proper conſiſtence for making into pills, the latter for being reduced into powder. The quantity of ſolid extract obtained by rectified ſpirit amounts to about one fourth the weight of the wood; with water ſcarcely one ſixth is obtained. After a pound of the ſhavings of the wood has been boiled in a gallon of water till half the liquor is waſted, and the coction ſucceſſively repeated with five or ſix freſh gallons of water, a conſiderable portion of reſin may ſtill be extracted by moderate digeſtion in rectified ſpirit.

(a) Sloane, *Catalogus plantarum in inſula Jamaica, p.* 186. *Voyage to Jamaica, vol.* ii. *p.* 133.

Extractum ligni guaiaci molle & durum.

The BARK of guaiacum is conſiderably leſs hard, but not much lighter, than the wood: it is thin, ſmooth, compoſed as it were of a number of fine plates joined cloſely together, externally of a blackiſh grey colour variegated for the moſt part with greeniſh or livid ſpecks, internally of a whitiſh or pale yellow. In taſte and ſmell, it is ſimilar to the wood, but weaker: the watery and ſpirituous extracts are of the ſame quality, but in leſs quantity.

The reſin, or GUM, ſo called, is brought over in irregular maſſes, uſually friable, of a duſky greeniſh, and ſometimes of a reddiſh hue; intermixed with ſmall pieces of the wood; of a pungent taſte, but of little or no ſmell, unleſs heated. It contains more reſin than the watery extract made from the wood; and more gummy matter than the ſpirituous extract. The reſin, which is the only active part, is obtained pure both from the gummy ſubſtance and from the woody and other indiſſoluble impurities, by digeſting the compound in rectified ſpirit, drawing off the ſpirit from the filtered ſolution till the matter begins to grow thick, and then adding a quantity of water, which will precipitate the pure reſin, and keep diſſolved ſuch of the gummy parts as the ſpirit may have taken up. The quantity of reſin, thus obtained, amounts commonly to about three fourths of the weight of the gum guaiacum.

Guaiacum was firſt received in Europe as a remedy for the venereal diſeaſe; and is ſaid, in the warmer climates, to have been ſometimes ſufficient for ſubduing it. Though of itſelf greatly unequal among us to that diſtemper, it is a good aſſiſtant to mercurial alteratives, and a medicine of great uſe alſo in ſeveral other caſes. To warm and ſtimulate the habit, to promote the excretions made from the blood, as perſpiration and urine, and likewiſe the groſſer evacuations from the inteſtinal canal, appear to be its primary virtues: in large doſes, it operates as a purgative. Where the excretory glands are obſtructed, the veſſels lax and flaccid, and the habit replete with impure ſerous humours; in ſundry cutaneous and catarrhous diſorders, ſome female weakneſſes, and chronical rheumatiſms; it frequently has good effects. In thin emaciated habits and an acrimonious ſtate of the fluids, it often does harm: in ſuch caſes, it has converted a ſimple itching of the ſkin to ill-conditioned eruptions, or increaſed the itching to an almoſt inſupportable degree: where this happens, nitre, whey, ſaline laxatives, and warm bathing, are commonly found moſt effectual for abating the complaints. Hoffman obſerves that it is, in general, leſs proper in an advanced age than in other circumſtances.

A decoction of half an ounce of the wood or bark may be taken in a day, at proper intervals, the patient keeping warm to promote a diaphoreſis. The gum, or extracts made from the wood, are given from a few grains to a ſcruple or half a dram, and ſometimes two ſcruples; which laſt doſe proves, for the moſt part, conſiderably purgative. The extract is recommended by Hoffman as an excellent errhine, which occaſions a great diſcharge from the noſe, and which he ſuppoſes, beſides its ſtimulating power, to be endued with a corroborating one, very friendly to the nervous parts.

Solutions or tinctures of the gum guaiacum are made in the ſhops, both with rectified ſpirit of wine, and with the dulcified aromatiſed volatile alkaline ſpirits, vulgarly called ſal volatile, which in many caſes promote its virtues. To ſix ounces of the gum guaiacum are directed, by the London college, two pints and a quarter of the volatile ſpirit. The Edinburgh college directs, for the volatile tincture, four ounces of the guaiacum, with two drams of balſam of Peru, and half a dram of eſſential oil of ſaſſafras, to be diſſolved in a pound and a half of dulcified ſpirit of ſal ammoniac; and for the ſpirituous ſolution, one pound of gum guaiacum and three drams of balſam of Peru, with two pounds and a half of rectified ſpirit. All theſe are ſufficiently elegant ſolutions of the guaiacum, and the additional articles coincide with its virtue: they may be given from twenty drops to a tea-ſpoonful or more in any convenient vehicle. The gum, or reſinous extracts, may be diſſolved alſo, by the mediation of thick mucilages,

Tinct. guaiaci *Ph. Lond.*

Elixir guaiacin. volat. *Ph. Ed.*

Elixir guaiacin. *Ph. Ed.*

mucilages, in watery liquors; and in this form are more commodiouſly taken than in ſpirituous ſolutions, the mucilage in great meaſure covering the pungency of the guaiacum: the mucilaginous ſolution, at firſt greyiſh or browniſh, changes in a few hours to a fine blue or bluiſh green colour.

GUMMI.

GUM: a concrete vegetable juice; of no particular ſmell or taſte; becoming viſcous and tenacious when moiſtened with water, totally diſſolving in water into a liquid more or leſs glutinous in proportion to the quantity of the gum; not diſſolving in vinous ſpirits or in oils; burning in the fire to a black coal, without melting or catching flame; ſuffering no diſſipation in the heat of boiling water.

1. Gummi arabicum *Pharm. Lond. & Edinb. Gummi acanthinum & thebaicum quibuſdam.* Gum-arabic: the gum, exuding from the Egyptian *acacia* tree, *(Mimoſa nilotica Linn.)* whoſe fruit affords the inſpiſſated juice of that name; brought to us from Turkey in ſmall irregular maſſes, of a clear whitiſh or very pale yellowiſh colour.

The medical character of gum-arabic is its glutinous quality; in conſequence of which, it ſerves to incraſſate and obtund acrimonious thin humours, in tickling coughs, alvine fluxes, and other like diſorders: Proſper Alpinus ſays, it is often uſed ſucceſsfully by the Egyptians for reſtraining hemorrhagies. It is given chiefly in the form of powder, from a ſcruple to a dram or two; and ſometimes diſſolved in water, in ſuch proportion as not to make the liquor diſagreeably ſlimy. An ounce renders a pint of water conſiderably glutinous: four ounces give a thick ſyrupy conſiſtence. The ſolutions mingle equally with vegetable and with mineral acids, and with neutral ſaline mixtures; but on the addition of alkalies, fixt or volatile, the liquor grows turbid, and the diſſolved gum ſeparates.

Though the gum in its dry ſtate is not affected by oily liquids, yet when ſoftened with water into the conſiſtence of a thick mucilage, it unites, by trituration, both with the fluid oils and the thicker balſams, ſo intimately, that the whole compound diſſolves in water, without ſeparation, into an emulſion or milky liquor; one part of gum-arabic, ſoftened with an equal weight of water, is ſufficient for rendering four parts or more of oil or balſam diſſoluble (*a*). The ſolid reſins may in like manner be reduced into emulſions, by grinding them thoroughly with powdered gum, and adding the water by degrees. By theſe means, all reſinous and oily bodies may be diſſolved in watery liquors, and thus excellently fitted for being taken in a liquid form, without any alteration in their ſmell, taſte, or virtue. Theſe emulſions, like the ſolutions of the gum itſelf, mingle uniformly with acids and neutral ſalts; but on the mixture of any alkali, they ſuffer immediately a ſeparation of their parts.

2. GUMMI SENEGALENSE *Pharm. Pariſ. Gummi ſenega vel ſenica.* Gum-ſenegal or ſenica: a gum brought from the iſland of Senegal on the coaſt of Africa, ſaid to be the produce of a tree

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(*a*) See on this ſubject the *medical obſervations and inquiries publiſhed by a ſociety of phyſicians in London, vol.* i. *art.* 28. *p.* 358.

tree of the ſame genus with that which affords the gum-arabic, *acacia ſiliquis compreſſis Pharm. Pariſ. Mimoſa ſenegal Linn.* Greateſt part of this gum is in larger and darker coloured maſſes than the arabic, and not ſmooth like it, but rough on the outſide. In quality, the two ſorts are ſcarcely different from one another, or from that which exudes from plum, cherry, and other trees among ourſelves: in the ſhops, the clearer pieces of the gum-ſenegal generally ſupply the place of the more coſtly gum-arabic. It is ſuppoſed that the Senegal gum is the ſtrongeſt and moſt ſubſtantial, and the Arabic the pureſt and fineſt.

3. TRAGACANTHA *Pharm. Lond. Gummi tragacantha Pharm. Edinb. Gummi tragacanthæ & dragacanthæ.* Gum-tragacanth or dragant: the gum exuding from a prickly buſh of the ſame name, (*tragacantha C. B.* goats thorn; *tragacantha cretica incana flore parvo lineis purpureis ſtriato Tour. Aſtragalus Tragacantha Linn.*) which grows wild in the warmer climates, and endures the cold of our own, but does not here yield any gum. This commodity is brought chiefly from Turkey, in irregular lumps, or long vermicular pieces bent into a variety of ſhapes; the beſt ſort is white, ſemitranſparent, dry, yet ſomewhat ſoft to the touch.

Gum-tragacanth differs from all the other known gums, in giving a thick conſiſtence to a much larger quantity of water; and in being much more difficultly diſſoluble, or rather diſſolving only imperfectly. Put into watar, it ſlowly imbibes a great quantity of the liquid, ſwells into a large volume, and forms a ſoft but not fluid mucilage: if more water be added, a fluid ſolution may be obtained by agitation, but the liquor looks turbid and wheyiſh, and on ſtanding the mucilage ſubſides, the limpid water on the ſurface retaining little of the gum. Nor does the admixture of the preceding more ſoluble gums promote its union with the water, or render its diſſolution more durable: when gum-tragacanth and gum-arabic are diſſolved together in water, the tragacanth ſeems to ſeparate from the mixture more ſpeedily than when diſſolved by itſelf.

Tragacanth is uſually preferred to the other gums for making up troches, and other like purpoſes, and is ſuppoſed likewiſe to be the moſt effectual as a medicine; but on account of its imperfect ſolubility is unfit for liquid forms. It is commonly given in powder with the addition of other materials of ſimilar intention: thus to one part of gum-tragacanth, are added one of gum-arabic, one of ſtarch, and ſix of ſugar.

Pulv. e trag. comp. *Ph. Lond.*

HÆMATITES.

BLOOD-STONE: an elegant iron ore, found either along with the other ores of that metal, or in diſtinct mines by itſelf; in irregular maſſes, convex on one ſide and angular on the other, generally of a dark reddiſh colour with more or leſs of a yellowiſh caſt, very heavy, and of great hardneſs. Broken longitudinally, it exhibits a number of ſtriæ converging to the ſmaller end: the tranſverſe fracture appears of a granulated texture. Expoſed to a moderately ſtrong fire, it falls by degrees into ſcales; and in this ſtate is attracted by the magnet, and gives out its iron to acids, both which have little action upon it in the maſs or when barely reduced to powder.

This mineral, finely levigated, and freed from the groſſer parts by waſhing over with water, has long been recommended in hemorrhagies, fluxes, uterine obſtructions, &c. in doſes of from one ſcruple to three or four. We preſume, that it is not expected to act any otherwiſe than by virtue of its ferrugineous matter; and that pure iron itſelf, or its preparations, are preferable to a ſtony ore of variable and uncertain contents.

HEDERA.

HEDERA ARBOREA C. B. Hedera communis major J. B. Hedera Helix Linn. Ivy: an evergreen plant, climbing and ſpreading on trees and old walls; with numerous ſlender twigs, and angular leaves. When grown old, the angles of the leaves diſappear, the plant becomes erect, produces flowers, ſmall and herbaceous, in autumn, and cluſters of black berries in winter.

The leaves of ivy have a very nauſeous taſte, and little or no ſmell. Haller ſays, they are commended in Germany againſt the atrophy of children. Among us they are ſometimes applied externally by the common people to running ſores, and for keeping iſſues open.

The berries were ſuppoſed by the ancients to have a purgative and emetic quality; and an extract made from them by water is called by Quercetanus *extractum purgans.* Later writers have recommended them in ſmall doſes, as alexipharmac and ſudorific: it is ſaid, that in the London plague, the powder of them was given in vinegar or white wine with good ſucceſs. It is probable, however, that the virtue

virtue of this compound was rather owing to the vehicle than to the ivy-berries.

From the ſtalks of this plant exudes, in the eaſtern countries, and ſometimes in our own (*a*), a reſinous juice, which has been directed as an officinal, under the name of *gummi hederæ.* This is in hard compact maſſes, externally of a reddiſh brown colour, internally of a bright browniſh yellow with reddiſh ſpecks or veins, of a vitreous gloſſineſs, but not pellucid, of a light agreeable ſmell when rubbed or heated, and a reſinous ſubaſtringent taſte. Rectified ſpirit receives from it a deep browniſh red tincture, and diſſolves near three fourths: near one fourth remains undiſſolved after the ſucceſſive action of water and ſpirit. It has been recommended as corroborant, and reſolvent, in cachexies, and uterine obſtructions; but has rarely been otherwiſe made uſe of than as an ingredient in plaſters: nor does it appear to have any virtues that common reſin does not poſſeſs in at leaſt an equal degree.

HEDERA TERRESTRIS.

HEDERA TERRESTRIS Pharm. Edinb. Hedera terreſtris vulgaris C. B. Corona terræ Lobel. Chamæciſſus; Chamæclema. Glechoma hederacea Linn. GROUND-IVY: a low, ſomewhat hairy, creeping plant: with ſquare ſtalks; roundiſh or kidney-ſhaped leaves ſet in pairs at the joints; in the boſoms of which come forth cluſters of blue labiated flowers, whoſe upper lip is cloven and turned backwards. It is common in hedges and ſhady places, flowers

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(*a*) Ray, *Hiſtoria plantarum, tom.* ii. *p.* 1506.

from April to near the end of ſummer, and is generally found green all the winter.

This herb has a quick, bitteriſh, warm taſte; and an aromatic but not very agreeable ſmell, which is in great meaſure diſſipated by drying. It is ſuppoſed to be particularly ſerviceable in diſorders of the breaſt, for cleanſing and healing ulcerations in general, reſolving coagulated juices, and purifying the blood. It has been cuſtomary to macerate the herb for a diet drink, in malt liquors; to which it readily communicates its virtue, and which it remarkably helps to fine down. It gives out its virtues alſo, together with a yellowiſh brown tincture, by infuſion in water: on inſpiſſating the filtered liquor, only the unpleaſant ſmell of the herb exhales, its more valuable parts remaining concentrated in the extract; which, on being taſted, impreſſes firſt a kind of ſweetneſs, then a degree of bitterneſs, and ſoon after diſcovers a ſtrong pungency. To rectified ſpirit of wine it yields its virtue only in part: the deep green ſpirituous tincture has but little of the ſubtile pungency of the watery infuſion; and the browniſh yellow extract, obtained by inſpiſſating the tincture, is much weaker in taſte, as well as leſs in quantity, than the extract made with water.

* *HELLEBORASTER.*

HELLEBORASTER Pharm. Lond. Helleborus niger fœtidus C. B. Helleborus fœtidus Linn. Bears foot or Setterwort: This ſpecies of hellebore is diſtinguiſhed by a leaf reſembling in ſhape a bird's foot, trilobate, with the lateral lobe, divided into four parts at the ſtalk, and the middle one ſimple. The leaf is firm, ſhining, ſerrated all round, and ſlender. The ſtem is leafy, ſupporting many flowers, which are green, ſometimes tinged with purple at the edges, and nodding. It is a native of England, and the ſouthern countries of Europe.

This plant has a ſtrong ungrateful ſmell, and a very pungent bitteriſh taſte. It is a draſtic purgative and emetic, and has long been in uſe among the common people as a vermifuge, for which purpoſe either a decoction of the leaves, or the powder of the dried leaves, has been given; but the effects are ſometimes ſo violent as to prove very alarming, and even fatal, eſpecially to young children. It was recommended to the regular practitioner by Dr. *Biſſet*, in his *Eſſay on the Medical Conſtitution of Great Britain*, as one of the moſt powerful medicines for expelling round worms with which he was acquainted. The doſe uſually adminiſtered is a dram of the freſh leaves in infuſion, or fifteen grains of the dried leaves in powder for a child of five or ſix years old, to be continued for two or three ſucceſſive mornings. The full doſe occaſions great ſickneſs and generally proves emetic, and often purges a little. An over doſe cauſes great anxiety about the præcordia, which however goes off as ſoon as the patient vomits. Dr. Biſſet latterly uſed the bears foot only in form of a ſyrup, made by moiſtening the herb with vinegar, expreſſing the juice, and mixing it with coarſe ſugar. In this form it occaſioned leſs ſickneſs and vomiting, and proved ſo little laxative, that he joined to it an equal quantity of tincture of rhubarb.

HELLEBORUS ALBUS.

HELLEBORUS ALBUS Pharm. Lond. Veratrum Pharm. Edinb. Elleborum album Matth. Helleborus albus flore ſubviridi C. B. Veratrum flore ſubviridi Tourn. Veratrum album Linn. WHITE HELLEBORE: a plant with large oval ribbed leaves, crumpled and plated as it were, ſet alternately on a round firm ſtalk, and embracing it by a tubulous baſis: in their boſoms, towards the top, appear cluſters of hexapetalous greeniſh white flowers, followed each by three flat pods containing whitiſh triangular ſeeds: the root is ſhort, commonly near an inch thick, with numerous fibres hanging from it, externally of a browniſh colour, internally white. It is common in mountainous places in Germany, Switzerland, and ſome other parts of Europe.

WHITE HELLEBORE ROOT has, when freſh, a diſagreeable ſmell; but as brought into the ſhops, ſcarcely any: its taſte is nauſeous, bitteriſh, acrid, very penetrating and durable. The juice of the freſh root, in taſte extremely acrid, is ſaid, when mixed with the blood, to act as a poiſon. The powder of the dry root is ſometimes mixed with external applications for deſtroying cutaneous inſects: ſnuffed up the noſe, in ſmall quantity, it proves a violent ſternutatory, and in this intention is ſometimes uſed in lethargic and other diſorders.

This root, taken internally, in doſes of ten or fifteen grains, operates with great violence both upwards and downwards, and has ſometimes brought on convulſions and other terrible ſymptoms: Hoffman obſerves, that it peculiarly affects the fauces, producing a ſtrangulation and danger of ſuffocation, with extreme anxiety. It has been chiefly employed, and that but ſeldom, in ſome kinds of maniacal caſes, as a laſt reſource; in which it is ſaid to have taken place after the ſtronger of the antimonial preparations had been given without effect. In minute doſes, it has been ſometimes uſed for acuating other purgatives and emetics; and ſometimes alſo as an alterative or deobſtruent in ſtubborn chronical diſtempers. In this laſt intention it is doubtleſs a medicine of great power, but its effects have not yet been ſufficiently aſcertained, to entitle it to a place in general practice.

Infuſions of white hellebore root in water, and the extracts obtained by inſpiſſating them, in colour yellowiſh, in taſte leſs acrid than the root itſelf, appear to operate with leſs violence. Hermann, who makes the doſe of the hellebore in powder from ten grains to fifteen, directs an infuſion of a dram; and of the extract he gives about as much as of the root in ſubſtance. In the ſhops, the active parts of the root, extracted by water, are thence transferred into honey: a pound of the root is macerated three days in four pints of water, then boiled a little, the decoction, preſſed out and ſtrained, mixed with three pounds of clarified honey, and the mixture boiled down till the water has exhaled and the honey appears of its original conſiſtence. This preparation is uſed ſometimes, but rarely, in glyſters: a ſimilar combination of the active matter of the hellebore with vinegar and honey, reduced to the conſiſtence of a ſyrup, is recommended by Geſner, in an expreſs treatiſe on this plant, as a ſafe

Mel helleboratum.

a ſafe internal medicine in phlegmatic diſorders, particularly thoſe of the breaſt, and ſaid to promote, without diſturbance, all the natural excretions: preparations of this kind, however, have one great inconvenience, that they do not admit ſo much preciſion, in regard to the ſtrength, as is requiſite in a medicine of ſo great activity.

A tincture of white hellebore made in proof ſpirit is likewiſe milder, both in taſte and in operation, than the root in ſubſtance: a tincture drawn with two pounds and a half of proof ſpirit from eight ounces of the root, is kept in the ſhops, and given ſometimes in doſes of a few drops as an alterative, and one or two drams and upwards as a cathartic and emetic. On inſpiſſating this tincture, the remaining extract is found to taſte ſtronger than that made with water, though not quite ſo pungent as the root itſelf.

Tinctura veratri *Ph. Ed.*

A decoction of an ounce of the powdered root in a quart of water, boiled down to a pint, with the addition of two ounces of rectified ſpirit to the ſtrained liquor, is now directed by the London college, for external purpoſes; and alſo an ointment prepared by mixing an ounce of the powder with four ounces of ſimple ointment of hogs lard, and half a ſcruple of eſſence of lemons.

Decoct. hellebori *Ph. Lond.*

Unguent. hellebori albi *Ph. Lond.*

HELLEBORUS NIGER.

HELLEBORUS NIGER Pharm. Lond. & Linn. Melampodium & Helleborus niger Pharm. Edinb. Helleborus niger flore roſeo C. B. BLACK HELLEBORE: a low plant, without any other ſtalk than the pedicles of the leaves and flowers, which are pretty thick, and generally ſtreaked with red or purple: the leaf is divided, quite to the pedicle, into ſix, ſeven, or more, ſmooth firm ſegments reſembling bay-leaves, indented from about the middle to the extremity; the flower is large, naked, pentapetalous, of a pale roſe colour, with numerous ſtamina in the middle, which are followed by five or ſix pods full of ſhining blackiſh ſeeds, the petala continuing, and changing greeniſh: the root conſiſts of numerous fibres, hanging generally from a knotty head, externally of a black colour, internally white. It is perennial, grows wild in the mountainous parts of Germany, and flowers in our gardens in January.

Black hellebore root, in doſes of from ten grains to half a dram, proves a very ſtrong, though not very violent cathartic. The hellebore of the ancients, which was never ventured on without extreme caution and as a laſt reſource, appears to have been a different ſpecies from ours, much larger and of more violent operation, called by Tournefort *helleborus niger orientalis, ampliſſimo folio, caule prealto, flore purpuraſcente*, which is ſtill ſaid to be found in plenty about mount Olympus, and in the iſland of Anticyra, celebrated of old for the production of this reputed antimaniacal drug. In the preſent practice, this root or its preparations are uſed ſometimes as a purgative in caſes where the ſtronger cathartics are required; but oftener in ſmall doſes as an attenuant and deobſtruent. It is found particularly ſerviceable againſt obſtinate ſuppreſſions of the menſtrual purgations, in plethoric habits and ſanguine conſtitutions, where chalybeates are ineffectual or injurious.

The taſte of this root is bitter and pungent: chewed for a few minutes, it ſeems to benumb the tongue. The fibres are ſtronger in taſte, and medicinally more active, than the tuberous head; and the cortical part of this, than the internal. It is ſaid to prove purgative when applied only externally, in fomentations, to the belly or feet. Water extracts by coction, and proof ſpirit by digeſtion, nearly all the virtue of the hellebore: rectified ſpirit takes up chiefly the irritating reſinous part. After due coction in water, it gives out little to ſpirit: but after repeated digeſtions in pure ſpirit, it is ſaid ſtill to yield to water a conſiderable proportion of a diuretic mucilaginous ſubſtance: the quantity of watery extract amounts to about one third of the root, the ſpirituous only to about one fifth.

Extractum helleb. nigri *Ph. Lond.* & *Ed.*

The extract made with water is the beſt and ſafeſt preparation of this root when deſigned for a cathartic; as it contains both the purgative and diuretic parts of the hellebore, and as the irritating power of its active matter is conſiderably abated by the boiling: it may be given from eight or ten grains to a ſcruple or more, but is uſed oftener in conjunction with other materials of ſimilar intention, than by itſelf. *An extract of black hellebore, made in a very operoſe way by macerating the root in rectified ſpirits, and wine, and then ſtrongly expreſſing the liquor, which is afterwards repeatedly mixed with water, and evaporated to a due conſiſtence, is the principal ingredient of a celebrated medicine for the dropſy in France, known by the name of *Bacher's tonic pills*. The other articles are an extract of myrrh, and powder of Carduus benedictus. Theſe pills are ſaid to produce a very copious evacuation both by ſtool and urine;

and at the ſame time to brace and ſtrengthen the ſolids. Their uſe is prohibited to perſons of a tenſe fibre, or who are ſuſpected to have internal ſuppurations. They are to be uſed with great caution alſo in hot climates. In dropſies with relaxation, they are ſaid to produce the happieſt effects.

Tinct. hellebori nigri *Ph. Lond.* † —melampodii *ſive* helleb. nigri *Ph. Ed.* ‡

A tincture made in proof ſpirit appears the moſt eligible preparation for the purpoſes of an alterative and deobſtruent: four ounces of the root may be digeſted in a quart†, or two pounds and a half of the ſpirit‡, with the addition of thirty‡ or forty† grains of cochineal to render the colour more ſightly; and the filtered tincture given to the quantity of a teaſpoonful twice a day, in warm water or any other convenient vehicle. Dr. Mead informs us, that in menſtrual obſtructions the power of this medicine is ſo great, that when, from an ill conformation of the parts, or other cauſes, the expected diſcharge does not ſucceed upon the uſe of it, the blood is ſo forcibly propelled, as to make its way through other paſſages.

HEPATICA.

LICHEN petræus latifolius ſive hepatica fontana C. B. Hepatica terreſtris vulgaris ſeu lichen officinarum Raii hiſt. i. 124. *Jecoraria. Marchantia polymorpha Linn.* LIVER-WORT: a ſpecies of moſs; conſiſting of numerous obtuſely laciniated leaves, lying over one another, marked on the ſurface with white tubercles reticularly diſpoſed through the green ſubſtance of the leaf, ſhooting out underneath fine capillary roots: from the extremities of the leaves iſſue clear whitiſh pedicles, bearing globular bodies, which when ripe contain black minute ſeeds like duſt. It is perennial, grows on moiſt ſtony places, and runs up to ſeed in March or April.

This moſs is recommended as an aperient, reſolvent, and purifier of the blood. From the penetrating though mild pungency and bitteriſhneſs of its taſte, ſinking as it were into the tongue, it promiſes to be a plant of no inconſiderable virtue, though in this country at preſent diſregarded. It gives out its active matter both to watery and ſpirituous menſtrua.

HEPATICA NOBILIS.

HEPATICA TRIFOLIA ſive herba trinitatis Pharm. Pariſ. Trifolium hepaticum flore ſimplici C. B. Anemone Hepatica Linn. Hepatica, Herb-trinity: a low plant, without any other ſtalk than the pedicles of the leaves and flowers: the leaf is cut, not very deep, into three lobes, entire about the edges: the flower is commonly blue, ſometimes reddiſh or white, hexapetalous, ſet in a three-leaved cup, with numerous ſtamina in the middle, which are followed by a cluſter of whitiſh ſeeds. It is perennial, grows wild on gravelly ſhady grounds in Germany and other parts of Europe, and flowers in our gardens in March or ſooner.

This herb is a mild reſtringent and corroborant; in which intentions, infuſions of it have been drank as tea, or the powder of the dry leaves given to the quantity of half a ſpoonful at a time. Its aſtringent matter is diſſolved equally by water and ſpirit; and on inſpiſſating the filtered tinctures, remains entire in the extracts: it is found however, even when thus concentrated, to be ſtill but weak. The watery extract is larger in quantity, and proportionably weaker in taſte, than the ſpirituous.

HERMODACTYLUS.

HERMODACTYLUS Pharm. Pariſ. HERMODACTYL: the root of a ſpecies of colchicum, brought from Turkey; of the ſhape of a heart, flatted on one ſide, with a furrow on the other; of a white colour; compact and ſolid, yet eaſy to cut or powder.

THIS root has a viſcous, ſweetiſh farinaceous taſte, and no remarkable ſmell. It was ranked by the ancients among the cathartics, but ſuch as we now meet with in the ſhops does not appear to have any purgative virtue. Alpinus relates, that hermodactyls, the ſame with what are ſold in Europe, are eaten by Egyptian women to the quantity of ſeveral roots at a time; that they do not move the belly, or produce any ill effect: that they are ſuppoſed to be very nutritious, and contribute to procure the fatneſs and plumpneſs there admired *(a)*. Thoſe, who report them to be purgative, have probably aſcribed to the hermodactyls a part of the effects of the ſubſtances which were joined to them; for, being acknowledged ſlow in operation, they have been commonly acuated with aloes and other cathartics. They have long been an en-

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(a) De medicina Ægyptiorum, lib. iii. *cap.* 16. *& lib.* iv. *cap.* 1.

tire ſtranger to practice, and the colleges both of London and Edinburgh have now deſervedly expunged them from their catalogues of officinals.

HIBERNICUS LAPIS.

HIBERNICUS LAPIS & Tegula hibernica & Ardeſia hibernica. Hardeſia Pharm. Pariſ. IRISH SLATE: a kind of ſlate or very ſoft ſtone, found in different parts of Ireland; in the maſs of a bluiſh black colour and ſtaining the hands; when powdered, pale or whitiſh at firſt, and in keeping growing black; in the fire yielding ſulphureous fumes, and acquiring a pale red colour with an additional hardneſs.

THIS mineral appears from Dr. Rutty's experiments in his ſynopſis of mineral waters, to be a matrix of ferrugineous vitriol; which it diſcovered by its taſte, and by the black colour which infuſions of it ſtruck with galls. The ſpecimens I examined, procured from our ſhops, had no vitriolic taſte, and infuſions of them in water ſuffered no viſible change from galls: but that they contained materials from which vitriol is producible, appeared from the ſulphureous fumes they emitted in the fire, and from their giving out, when burnt, a calx of iron to aqua regis; the iron diſcovered itſelf by the tincture ſtriking a blue colour with the lixivium deſcribed under the article *ferrum:* their burning hard ſhews their earthy matter to be of the argillaceous kind. It may therefore be preſumed, that this foſſil conſiſts of argillaceous earth impregnated, like the pyritæ, with ſulphur and iron; and that, like the pyritæ alſo, it is capable of becoming vitriolic by long expoſure to the air and moiſture. It has been ſometimes taken by the common people, powdered and mixed with ſpruce beer, againſt inward bruiſes; but its medicinal uſe in any intention is not much to be commended, on account of the variability of its qualities.

* *HIPPOCASTANUM.*

HIPPOCASTANUM Pharm. Edinb. Æſculus Hippocaſtanum Linn. HORSE-CHESTNUT: The fruit of this tree, which is a trilocular capſule, containing two ſeeds in each cell, has been given as a food to ſheep; and ſteeped in water, ſo as to extract its bitterneſs, is ſaid to fatten poultry. It falls ſpontaneouſly into a ſaponaceous gluten, which has been uſed inſtead of ſoap for waſhing linen. No writer mentions its medical application; but the Edinburgh college have admitted it on the recommendation of Dr. Gardiner, who ſays, that three or four grains of the powder ſnuffed up the noſtrils in the evening, operates next morning as an excellent ſternutatory, and thereby proves very beneficial in obſtinate inflammations of the eyes.

The bark of the horſe-cheſtnut has been propoſed in Italy, according to Haller, as a ſubſtitute to Peruvian bark in the cure of intermittents; and the experiment has proved ſucceſsful *(a)*.

(a) Stirp. Helvet. I. 442.

HIPPOSELINUM.

HIPPOSELINUM theophraſti vel ſmyrnium dioſcoridis C. B. Macerone & olus atrum & herba alexandrina quibuſdam. Smyrnium Oluſatrum Linn. ALEXANDERS: an umbelliferous plant, with leaves like thoſe of ſmallage but larger: producing thick, roundiſh, ſtriated, black ſeeds. It is biennial, grows wild about the ſea coaſts, and ſides of rivers, and flowers in May and June.

THIS plant is nearly ſimilar in quality to ſmallage, but ſomewhat ſtronger both in ſmell and taſte: it was formerly blanched in our gardens for culinary uſe, but has now given place to celeri, which is more grateful. The ſeeds are bitteriſh and aromatic, and have been now and then employed, like the other warm ſeeds, as carminatives, ſtomachics, and aperients: they give out their virtue imperfectly to water; completely to rectified ſpirit: in diſtillation with water, they yield a ſmall quantity of eſſential oil, ſmelling agreeably of the ſeeds, and in taſte moderately pungent. The roots are bitterer than the ſeeds, and ſtand recommended as reſolvents, diuretics, and emmenagogues: they yield, on inciſion, a whitiſh juice, which is ſaid, when inſpiſſated, to approach in taſte to myrrh; whence the plant has been called, from one of the names of that gummy-reſin, *ſmyrnium.*

HORMINUM.

HORMINUM ſclarea dictum C. B. Gallitrichum ſativum J. B. Salvia Sclarea Linn. GARDEN CLARY: a whitiſh green, ſlightly hairy plant, with ſquare ſtalks, and large wrinkled oblong ſomewhat heart-ſhaped leaves: both the leaves, and the diviſions and ſubdiviſions of the branches, ſtand in pairs: on the tops grow long ſpikes of bluiſh labiated flowers, at the origin of which are little concave purpliſh leaves without pedicles: the upper lip of the flower is long and arched, the lower ſmaller and cut into three ſegments, the middlemoſt of which is hollowed like a ſpoon. It is biennial, a native of the warmer climates, cultivated with us in gardens, and flowers in July and Auguſt.

THE leaves and ſeeds of clary are recommended as corroborants and antiſpaſmodics; particularly in the fluor albus and other like weakneſſes, and in hyſterical complaints. They have a bitteriſh warm taſte; and a ſtrong ſmell, of the aromatic kind, but to many perſons not agreeable. The leaves diſcover to the touch a large quantity of unctuous reſinous matter, in which the virtue of the herb appears to reſide, which is readily diſſolved by rectified ſpirit, and which, on inſpiſſating the fine green tincture, remains nearly entire in the dark browniſh extract: this extract ſmells more agreeably than the herb in ſubſtance, and is in taſte moderately warm, bitteriſh, and pungent. Water takes up likewiſe by infuſion great part of the active matter of the clary, and carries off its whole flavour in evaporation, leaving a weak, diſagreeably

agreeably bitteriſh, roughiſh extract. In diſtillation with water, there ariſes both from the leaves and ſeeds, a ſmall quantity of eſſential oil, ſmelling ſtrongly of the clary: from ſixty-four ounces, or five hundred and twelve drams, of the ſeeds, was obtained only about one dram of oil. The leaves or ſeeds, fermented with malt liquors, are ſaid to remarkably increaſe their inebriative quality.

HYOSCYAMUS.

HYOSCYAMUS Pharm. Pariſ. HENBANE: a plant with ſoft, hairy, oblong, deeply notched leaves; and bell-ſhaped flowers cut into four ſegments, followed by irregular cup-like capſules, whoſe cover falling off diſcloſes numerous ſmall ſeeds in two cells.

1. HYOSCYAMUS *Pharm. Edinb. Hyoſcyamus niger vel vulgaris C. B. Hyoſcyamus niger, ſive apollinaris herba, altercum arabum Lob. Faba ſuilla. Hyoſcyamus niger Linn.* Black henbane: with large leaves joined cloſe to the ſtalk; duſky coloured flowers; and greyiſh ſeeds. It is annual, grows wild in waſte rich grounds, and flowers in June.

2. HYOSCYAMUS ALBUS *Linn. Hyoſcyamus albus major vel tertius dioſcoridis & quartus plinii C. B.* White henbane: with ſmaller and woollier leaves ſet on pedicles; white flowers; and whitiſh ſeeds. It is annual, and a native of the ſouthern parts of Europe.

THESE plants have a fetid ſmell, of the narcotic kind: on the organs of taſte they make no conſiderable impreſſion, the leaves being little other than herbaceous, the ſeeds ſomewhat mucilaginous, and the roots ſweetiſh. The leaves, applied externally, in the form of cataplaſm, fomentation, or unguent, are ſaid to be refrigerant, diſcutient, and to abate not only inflammatory but rheumatic pains. All the parts, when taken internally, though in no great quantity, prove highly narcotic, and occaſion violent diſorders of the ſenſes, ſometimes of long duration, and ſometimes fatal. There are ſeveral inſtances alſo of the ſenſes being ſtrongly affected by the effluvia of the plant; and by the vapour that ariſes upon ſcorching it over the fire, which has by ſome been imprudently directed to be received into the mouth againſt tooth-achs (*a*). The effect of ſmall doſes, inſufficient to do harm, are not well known. The ſeeds have been given from two or three grains to a ſcruple, and ſaid to have proved beneficial in ſpittings of blood and thin ſharp defluxions on the lungs, and likewiſe in ſome convulſive diſorders. The preſent practice, however, has deſervedly rejected a medicine of ſuch ſuſpicious qualities, and which appears to be at beſt but a precarious ſuccedaneum to the products of the poppy. It is ſaid, that the ſeeds are the mildeſt part, and the root the ſtrongeſt; that the black ſort is in all its parts ſtronger than the white; and that the ſeeds are the more deleterious, the more they approach to blackneſs. The inſpiſ-

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(*a*) *Vide* Lindeſtolpe, *De venenis, cap.* x. *theſ.* 20. *edit. Stentzel. p.* 559. Konig, *Regnum vegetabile, ſect.* iv. *p.* 869. Hoyer, *Acta phyſico-medica naturæ curioſorum, vol.* v. *obſ.* 69. *p.* 260. Hoffman, *Philoſophia corporis humani morboſi, p.* ii. *cap.* vii. § 7. *Oper. omn.* i. 223. Haller, & auctores ab eo citatos, *Stirp. helvet. p.* 513.

ſated juice of the leaves of this ſpecies is directed as an officinal by the Edinburgh college.

Succ. ſpiſſat. Hyoſcyam. *Ph. Ed.*

HYPERICUM.

HYPERICUM Pharm. Lond. Hypericum vulgare C. B. Androſæmum ſive perforata Geſn. Hypericum perforatum Linn. St. John's wort: a plant with ſlender round woody reddiſh ſtalks, which have two fine ridges, or ſharp edgings, oppoſite, alternately, from joint to joint; ſmall oblong obtuſe leaves, ſet in pairs without pedicles; and numerous gold-coloured pentapetalous flowers on the tops of the branches, followed by little rough blackiſh huſks, each of which is divided into three cells full of minute ſeeds. It is perennial, grows wild in woods and uncultivated places, and flowers in June and July.

This plant has been recommended as a medicine of peculiar efficacy in hyſterical and hypochondriacal diſorders, and alienations of mind; from its ſuppoſed virtue in which caſes, it received the name of *fuga dæmonum.* It promiſes to be of ſome uſe as a mild detergent and corroborant, diſcovering to the ſenſes a reſinous, bitteriſh, balſamic impregnation. The leaves, viewed againſt the light, exhibit numerous tranſparent points, which are found to be little veſicles full of eſſential oil or reſinous matter; in diſtillation with water, the oil ſeparates and riſes to the ſurface, approaching in ſome degree to that of turpentine. About the edges of the flower are obſerved black points, and on the ſeed veſſels ſmall tubercles, which appear to be ſimilar oily veſicles: the tops, when the ſeeds are formed, have the ſtrongeſt terebinthinate ſmell, and yield in diſtillation the greateſt quantity of oil. The flowery tops give a deep yellowiſh red tincture to rectified ſpirit, and a paler red to expreſſed oils: this colour does not appear to proceed from the ſubſtance of the leaves or flowers, but from the reſinous juice in the veſicles above-mentioned. A tincture of the flowers in oil olive, made by macerating four ounces of the full blown flowers, freſh gathered, and freed from the cups, in a quart of oil, till the oil is ſufficiently coloured, is kept for external purpoſes in the ſhops, but very rarely made uſe of.

HYPOCISTIS.

HYPOCISTIDIS SUCCUS. The juice of HYPOCISTIS: an inſpiſſated juice, of a firm conſiſtence and a bright black colour; prepared from a certain fleſhy juicy vegetable production (*hypociſtis ſub ciſto C. B. Aſarum Hypociſtis Linn.*) which, in the warmer climates, grows up from the root of different kinds of the ciſtus or rock-roſe, three or four inches high, eaſy to break, clothed with ſcales, bearing a number of little bell-ſhaped flowers on the top, but no leaves.

THIS juice is a mild aſtringent, of no particular ſmell or flavour. It is looked upon as ſimilar to the Egyptian acacia; from which, however, it differs remarkably in its pharmaceutical properties, the hypociſtis being almoſt totally diſſoluble in rectified ſpirit of wine, whereas acacia gives out little or nothing to that menſtruum. It is at preſent ſcarcely otherwiſe made uſe of among us, than as an ingredient in ſome of the old compoſitions.

HYSSOPUS.

HYSSOPUS Pharm. Edinb. Hyſſopus officinarum cærulea ſive ſpicata C. B. Hyſſopus officinalis Linn. Hyssop: a low ſhrubby plant; with brittle branched ſtalks, ſquare when young, and round when they grow woody; oblong narrow dark green leaves ſet in pairs; and looſe ſpikes of labiated blue flowers, whoſe upper lip is cloven and turned upwards, ſtanding in rows, towards the tops of the ſtalks, generally all on one ſide, in long ſtriated cups. It is perennial, cultivated in gardens, and flowers in July and Auguſt.

The leaves of hyſſop have an aromatic ſmell, and a bitteriſh moderately warm taſte. They give out their active matter both to water and rectified ſpirit, to the laſt moſt perfectly: the watery infuſions are of a browniſh or greeniſh yellow, the ſpirituous tinctures of a dark blackiſh green colour. On inſpiſſating the ſpirituous tincture, very little of the flavour of the herb exhales or diſtils with the menſtruum: the remaining extract is bitteriſh and very warm, and diſcovers a penetrating pungency, ſomewhat like that of camphor. Water, diſtilled from the freſh herb, is found pretty ſtrongly impregnated with its flavour: an eſſential oil ſeparates and riſes to the ſurface, to the quantity of about an ounce from ſix pounds of the leaves, in ſmell exactly reſembling the hyſſop, in taſte very pungent, in colour, when newly diſtilled, yellowiſh with a ſlight caſt of green, which by age changes to a browniſh: the decoction, remaining after the diſtillation, is diſagreeably roughiſh, bitteriſh, and ſubſaline.

This plant is accounted particularly ſerviceable, as an attenuant, corroborant, and expectorant, in humoural aſthmas, coughs, and other diſorders of the breaſt and ſtomach unaccompanied with inflammatory ſymptoms: in theſe caſes, infuſions of the leaves, which are not unpalatable, may be ſweetened with honey or ſugar, and drank as tea. The diſtilled water, by ſome made choice of as a baſis for pectoral mixtures and juleps, does not appear ſuperiour or equal to the infuſion.

END OF VOL. I.